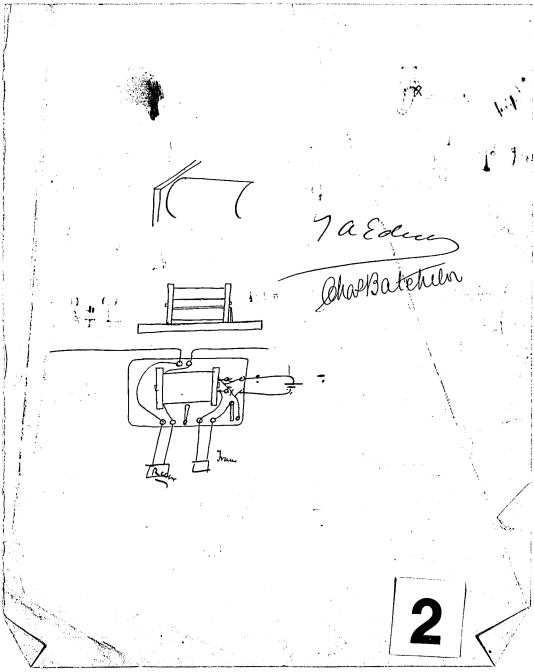
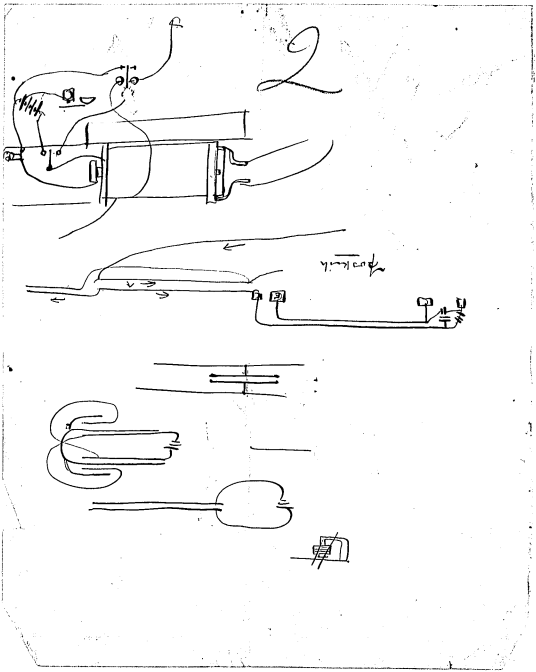
Notebook, Volume 15

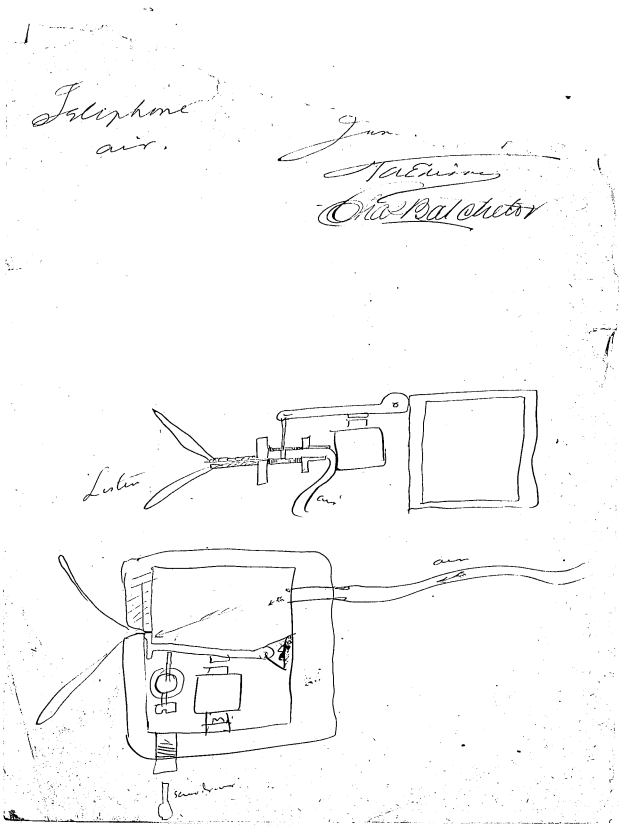
This volume contains only a few dated entries, covering the years 1875-1877. The notes and drawings are by Edison, Charles Batchelor, and James Adams. They relate to acoustic and multiplex telegraphy, the speaking telegraph and telephone, the phonograph recorder, and the etheroscope. The volume consists of 174 numbered, unbound leaves.

Missing pages, found in facsimile in the Telephone Interferences: 49, 79-81, 83, 90, 111, 117-118, 152.

Missing pages: 1, 3, 5, 7-8, 37, 41, 44-45, 169.
Pages 3, 5, 7-8, 37, 41, 44-45 were found, microfilmed in a supplement, and included here.


Thomas A Edison
Charles Batchelor
2





Unbound Notebooks, Volumes 8-18

Vol. 15 (pp. 3, 5, 7, 8, 37, 44, 45)

T. A. EDISON.

Menlo Park, N. J., 187

Pyrocellic Book

Oct 21 1877.

Oct 21 1877

T. A. EDISON.

Menlo Park, N. J., 187

Pyrocellic Book

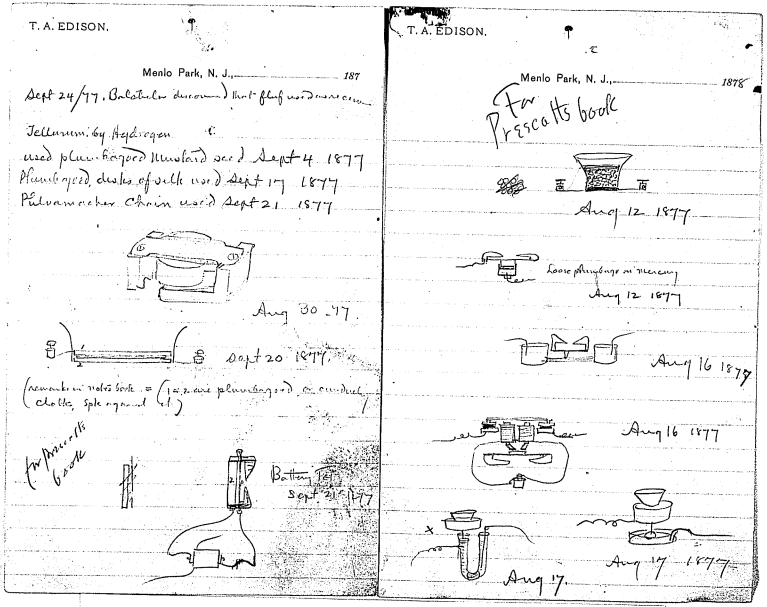
Phonograph Recorder

Aug 17 1877

Aug 25 1877

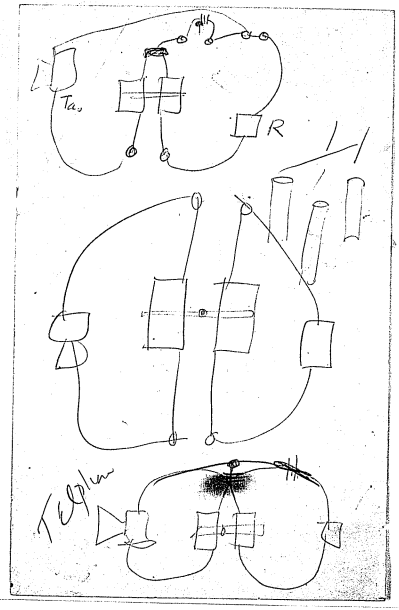
4

6


T. A. EDISON.
Menlo Park, N. J., 187
Sept 24/77. Bobbinet drawing thick platinum wire
Tellurium by Hydrogen
used platinized Minotaid cord Sept 4 1877
Platinized cloths of silk cord Sept 17 1877
Platinum chain used Sept 21 1877
Aug 30 77.
Sept 20 1877
(remarks in notes book = (1 & 2 are platinized cord, 3 cambric cloth, 4 platinized)
for Prescotts book
Sept 21 1877
T. A. EDISON.
Menlo Park, N. J., 1878
For Prescotts book
Aug 12 1877
Loose platinum in mercury
Aug 12 1877
Aug 16 1877
Aug 16 1877
Aug 17 1877
Aug 17.

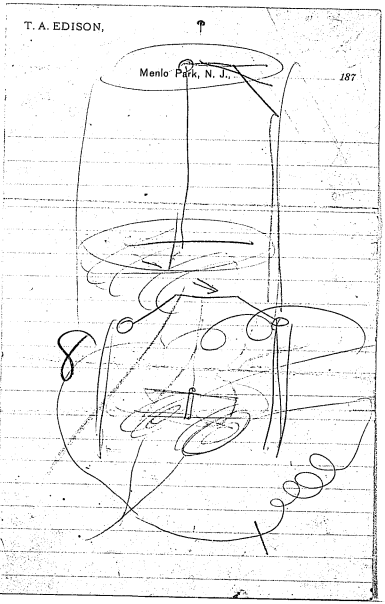
Unbound Notebooks, Volumes 8-18

Vol. 15 (pp. 3, 5, 7, 8, 37, 44, 45)



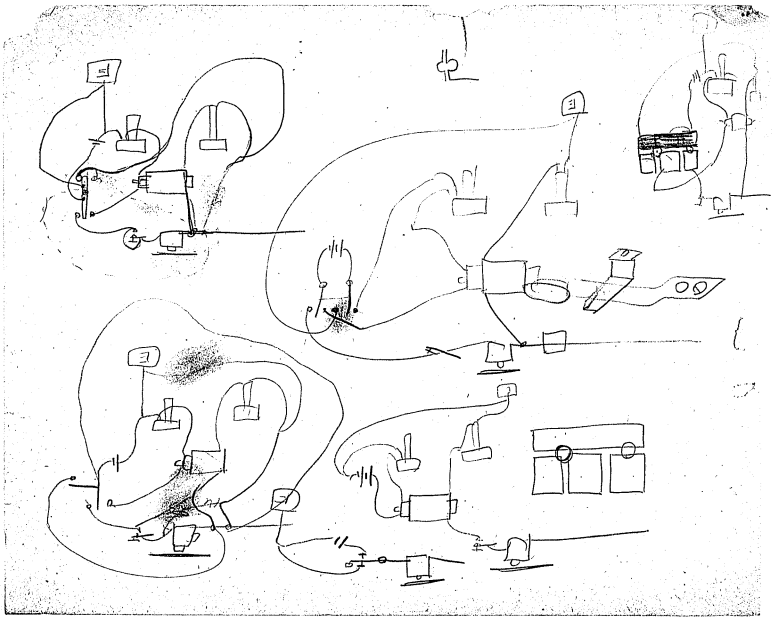
Unbound Notebooks, Volumes 8-18

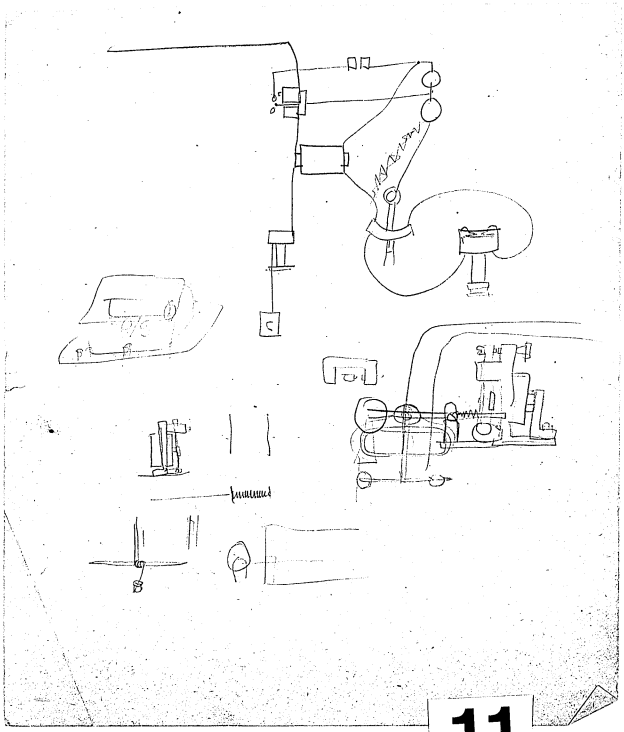
Vol. 15 (pp. 3, 5, 7, 8, 37, 44, 45)

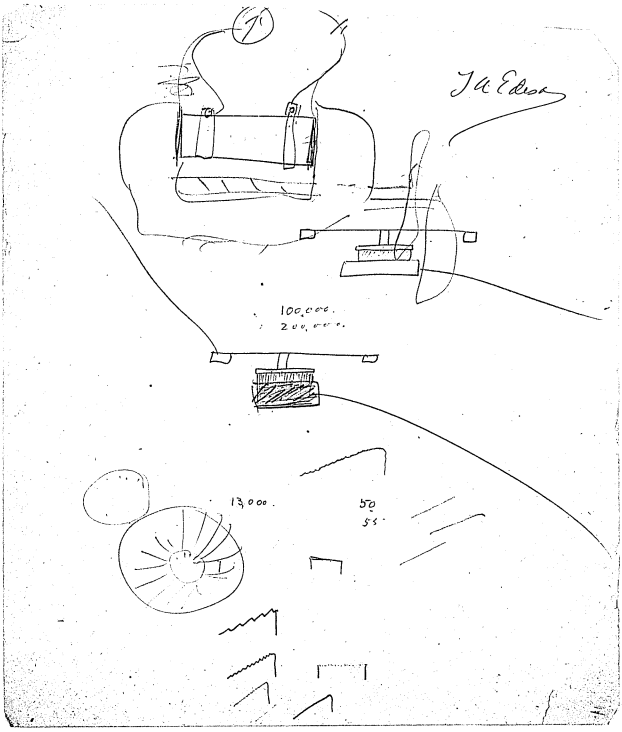


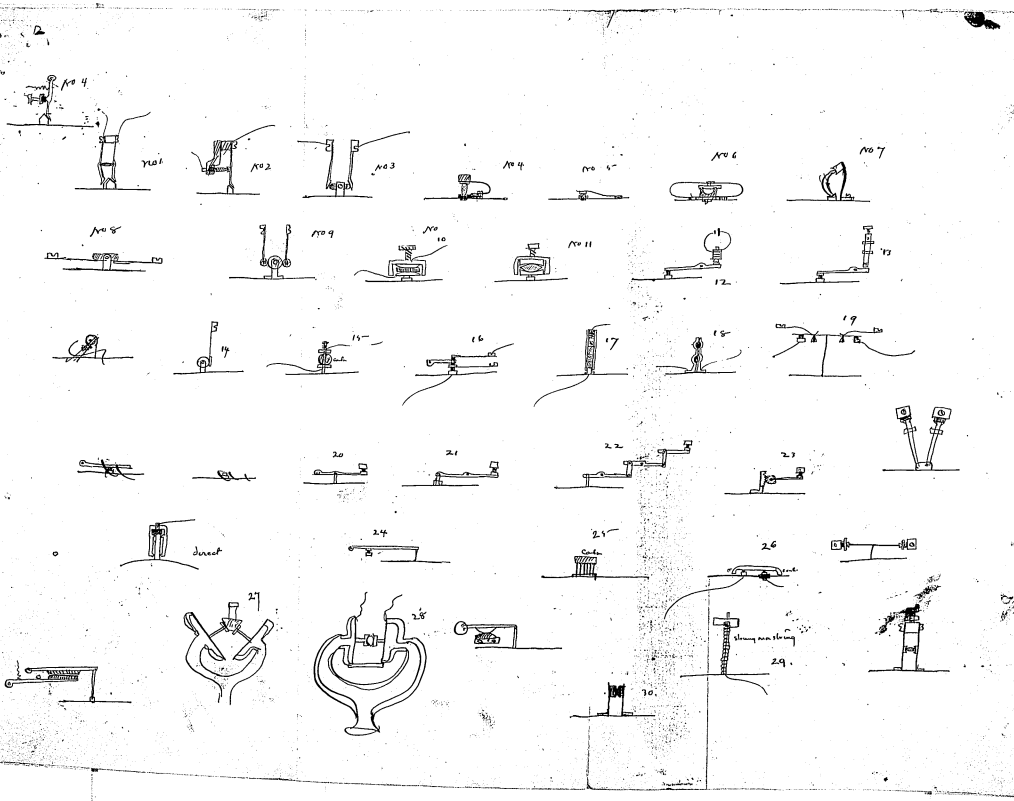
Unbound Notebooks, Volumes 8-18

Vol. 15 (pp. 3, 5, 7, 8, 37, 44, 45)






T.A. Edison
100,000.
200,000.
13,000.
50
55.


No 1
No 2
No 3
No 4
No 5
No 6
No 7
No 8
No 9
No 10
No 11
12
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14
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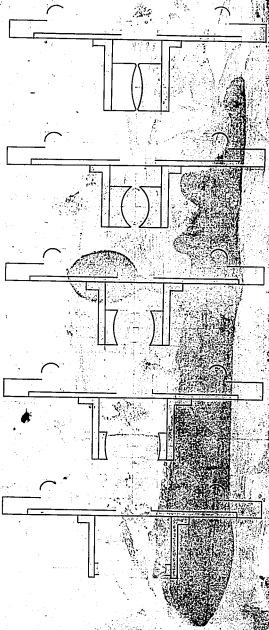
30
direct



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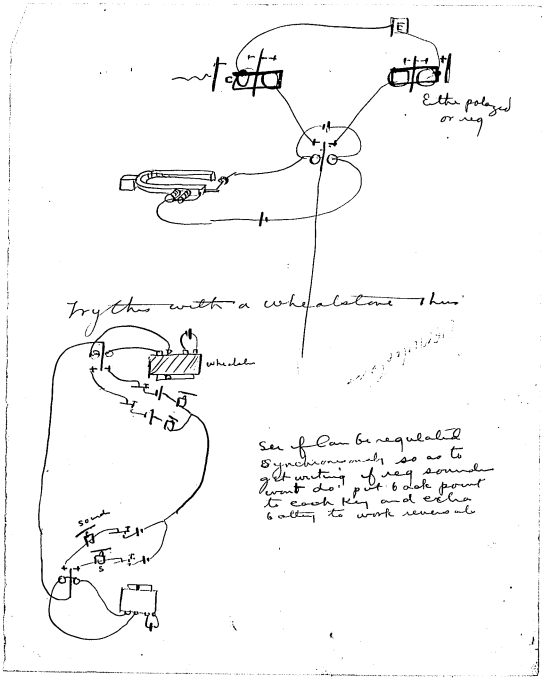
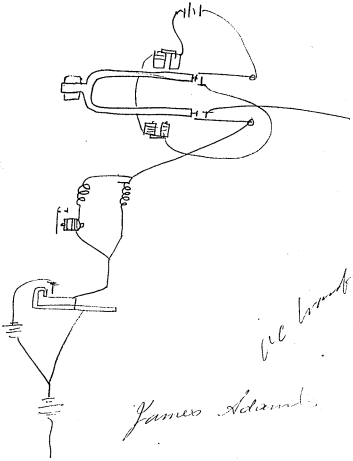
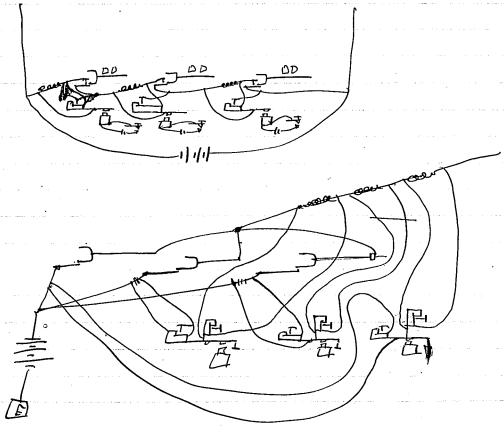

E
Either polarized or neg
Try this with a Wheelstone Bridge
Wheelstone
Sender
S
Sen[illegible] can be regulated & synchronously so as to [illegible] writing [illegible] sounder [illegible] but by ink point to each key and cable battery to work reversed

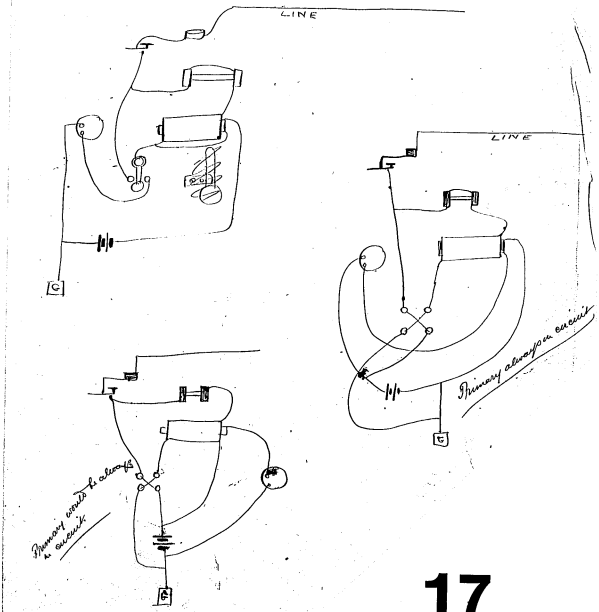


James Adams

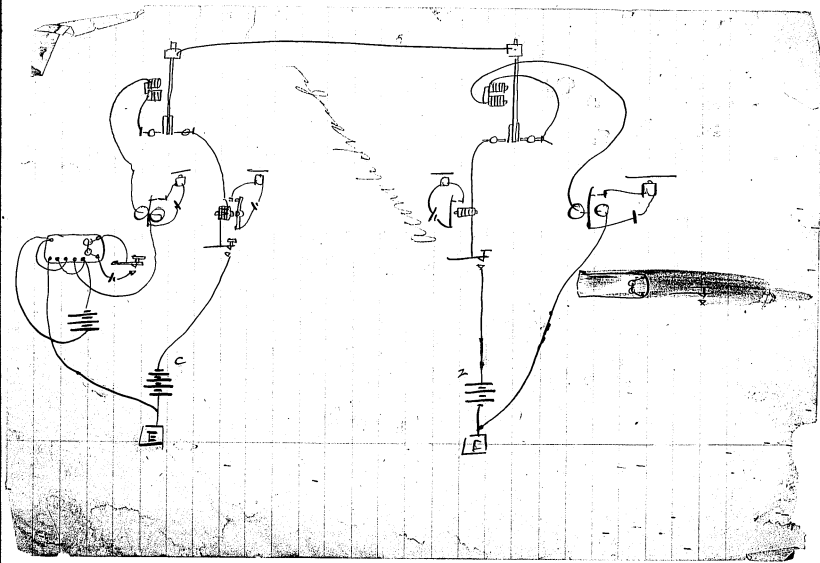


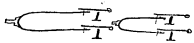
James Adams

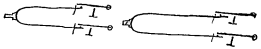
Aug 1879

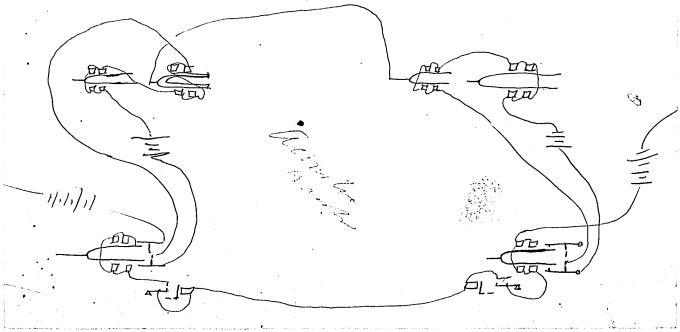

LINE
LINE
Primary always in circuit
Primary circuit always in circuit

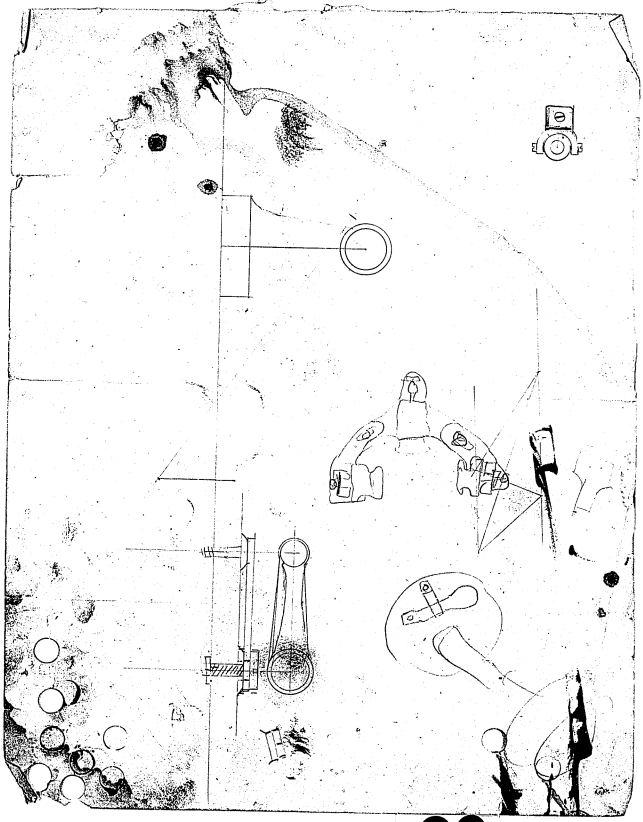
17

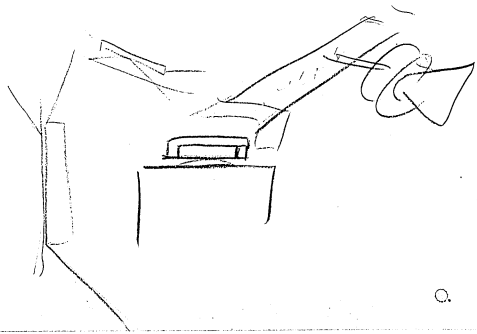




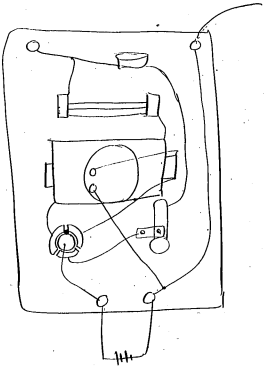




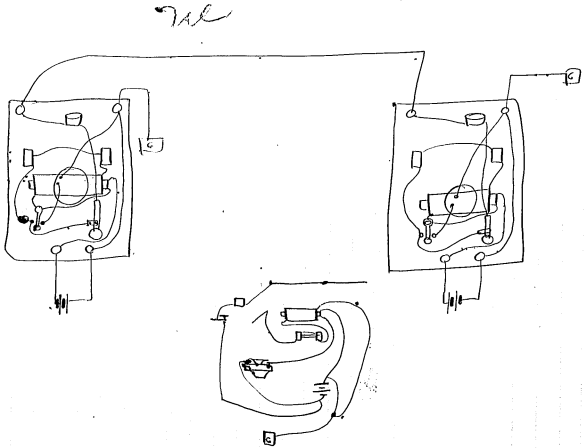


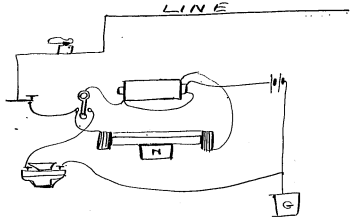


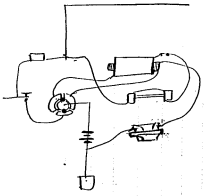
Q.

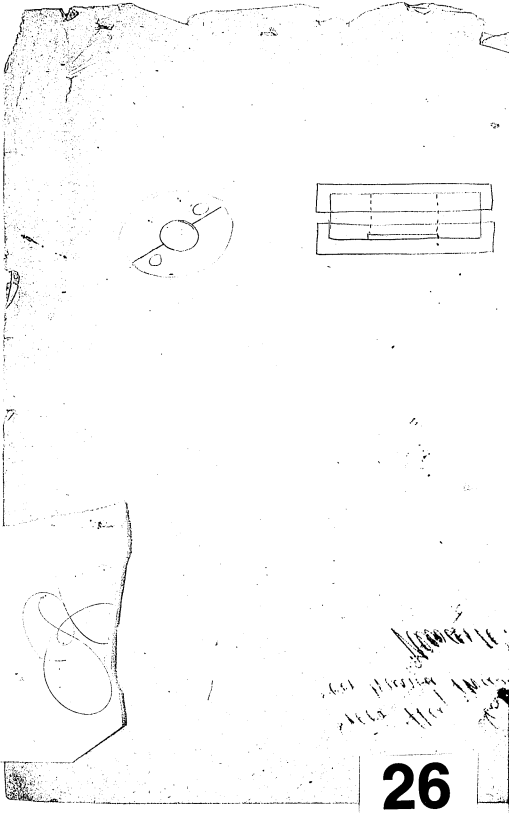


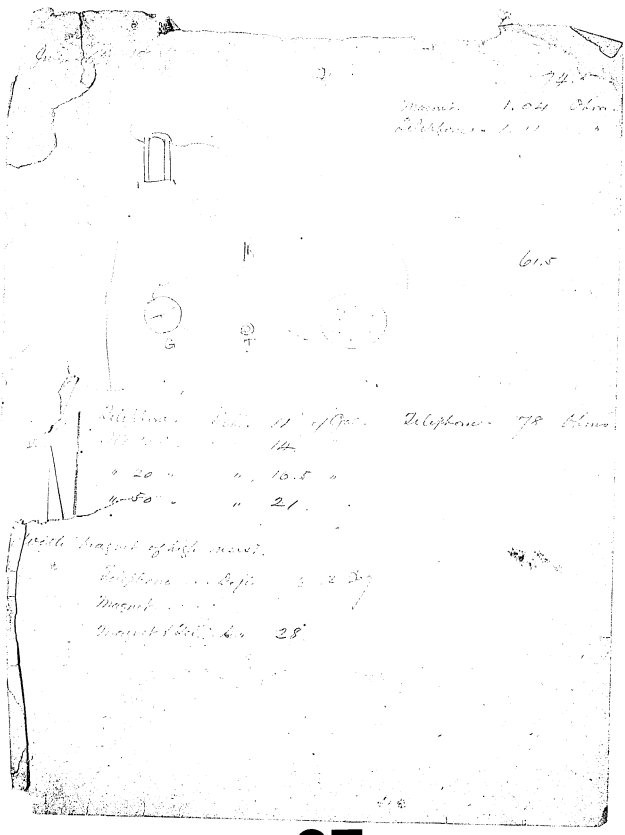
Got to either go through trans or primary ckt.


TAIL


LINE
N
G





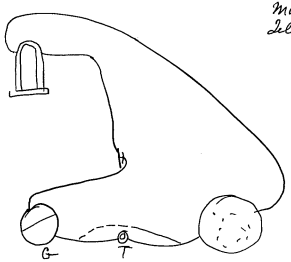


[TRACING]

July 26th

74

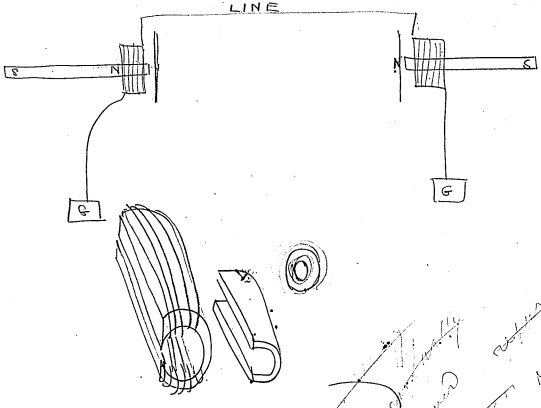
Magnet 1.04 Ohm
Telephone – 1.11



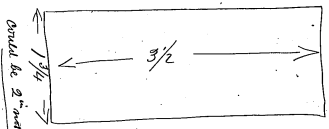
61.5

Telephone Defl 11° of Gal Telephone 78 Ohms
Add 10 Gr " 14° "
" 10 " " 16 5 "
" 50 " " 21

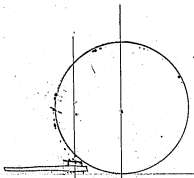
With magnet of high resist
Telephone Defl 61 1/2 Deg
Magnet
Magnet + Tel 0 " 28


LINE
S
N
N
S
G
G

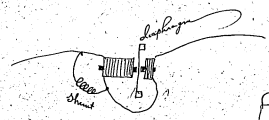
Coil for speaking telephone Induction coil given by Bergmann in Book 116

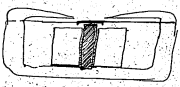


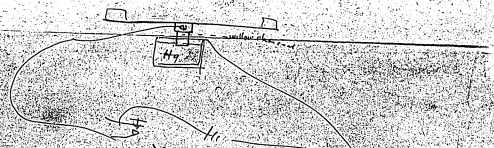
Should be 2" not 1¾".



Speaking Telephones



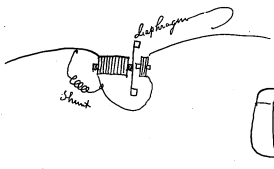


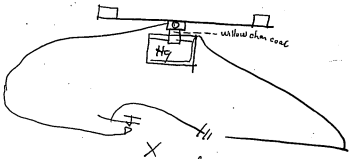


30

[TRACING]

Speaking Telephones



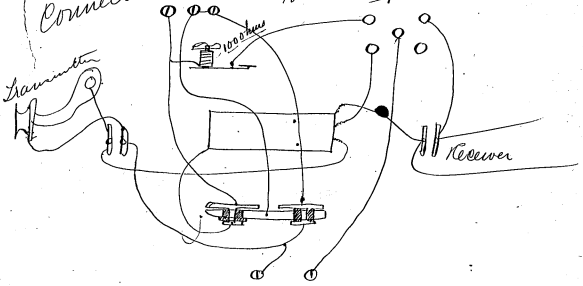


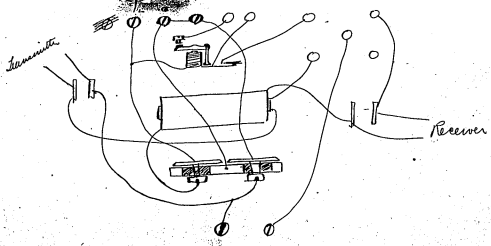
X

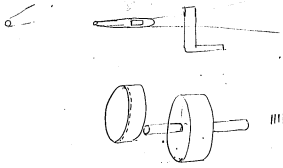
Speech is by Key and Carbon Telephone Call by Gent Calling =

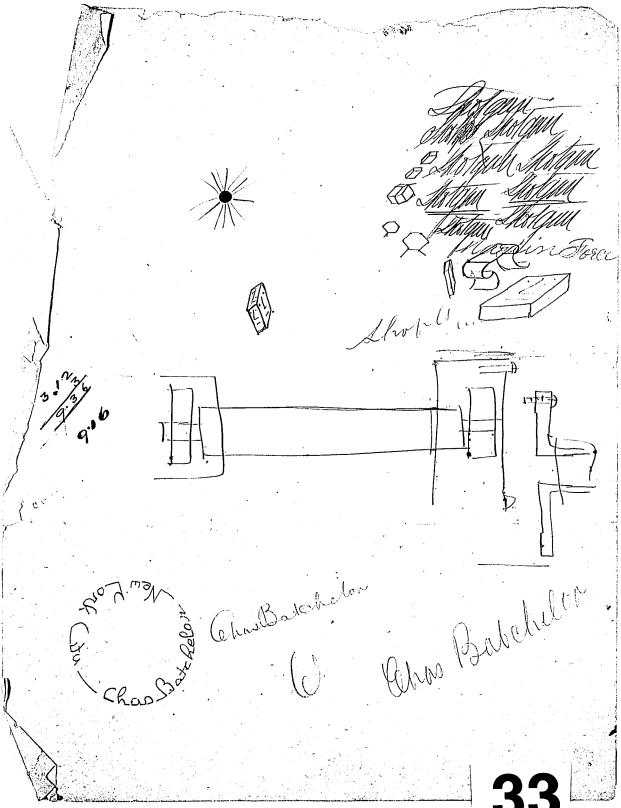
Edison's
Speaking Telephone

Connections on Desk pattern as
Made by G. Phelps



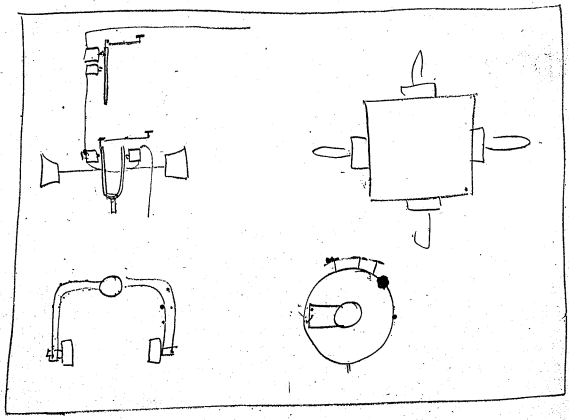


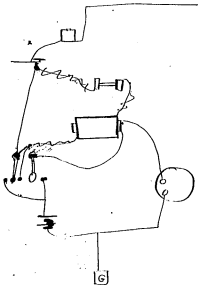


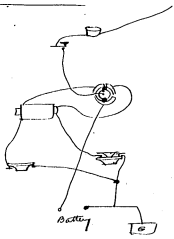

Chas Batchelor
New York
Chas Batchelor
Chas Batchelor

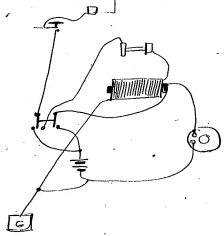
10.000 ohms

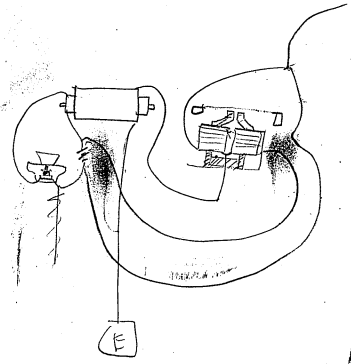
James Adams
J. Kincaid




G


Batt
G


G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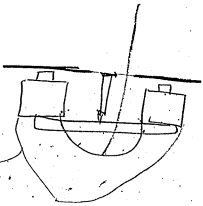
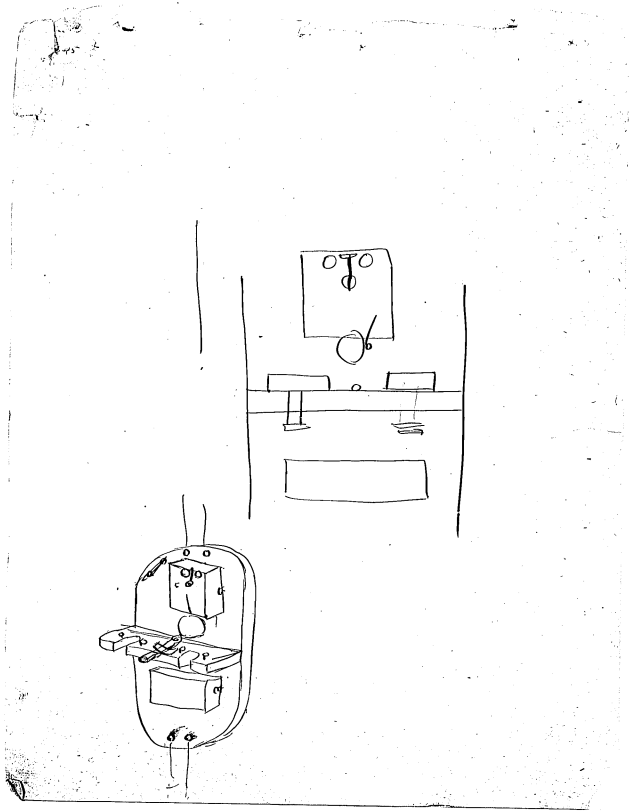
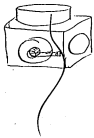
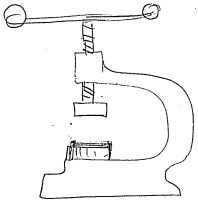




Unbound Notebooks, Volumes 8-18

Vol. 15 (pp. 3, 5, 7, 8, 37, 44, 45)





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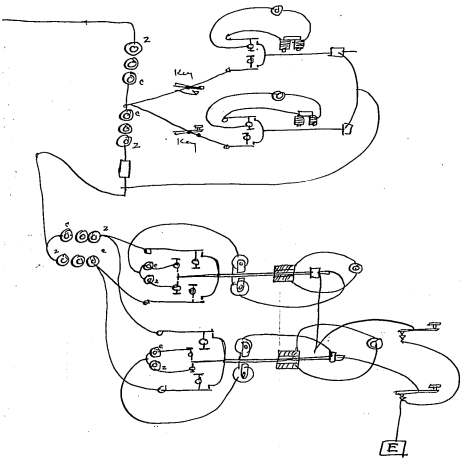
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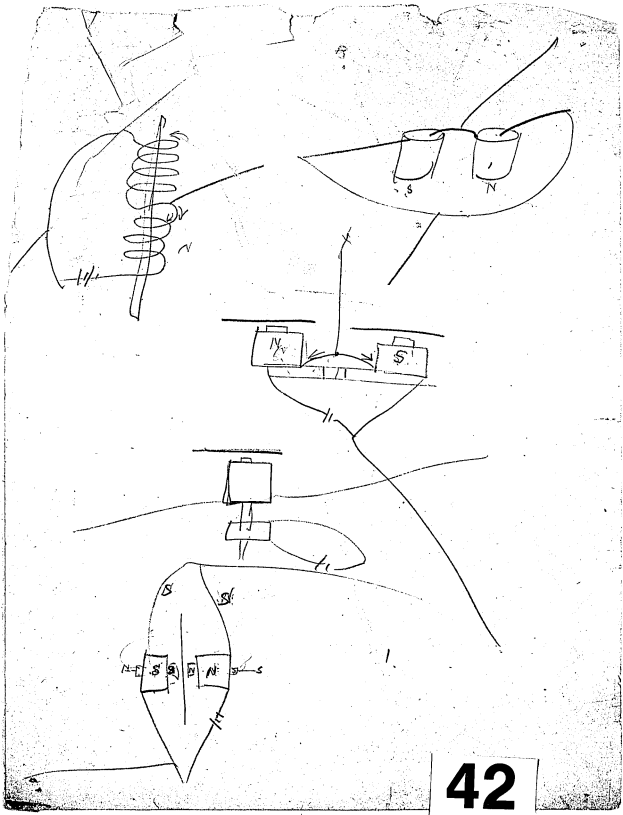
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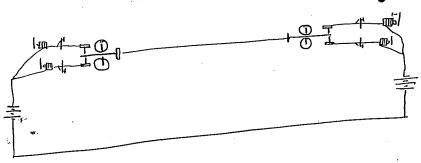


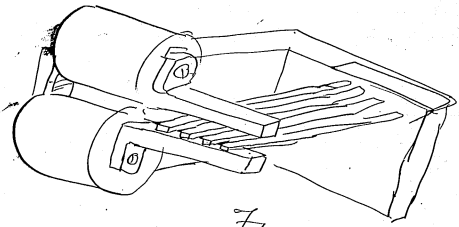
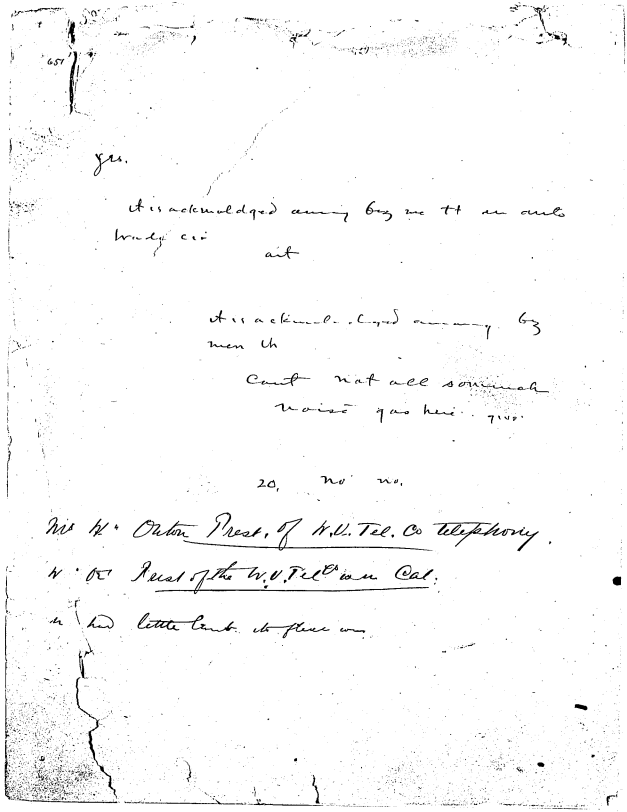


Fig. 4.



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raise you here. Tues.

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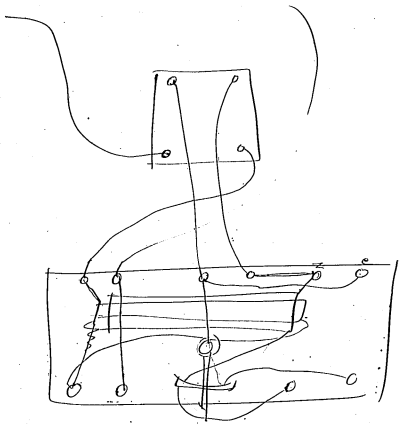
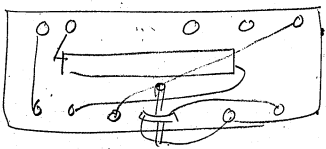
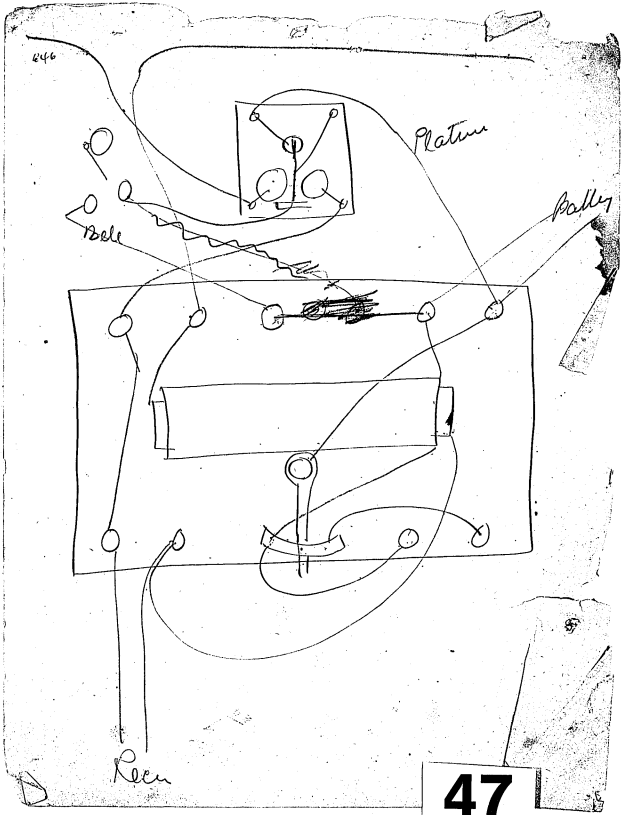
Mr H. Orton Prest. of W.U. Tel. Co telephoning.

W. O. Prest of the W.U. Tel Co in Cal.

in had little talk about place in






446
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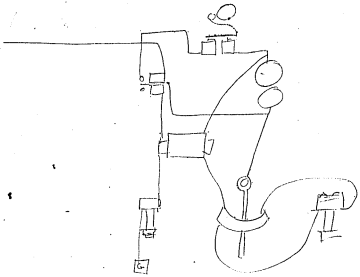
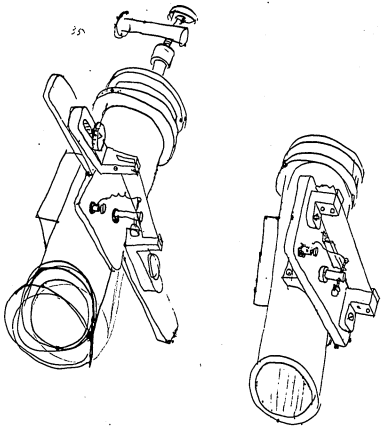
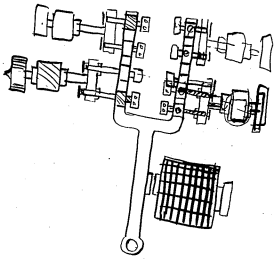
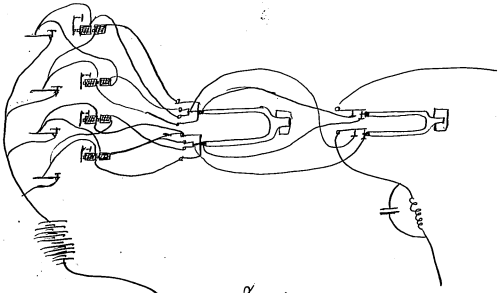


EDISON'S EXHIBIT. 49–15.



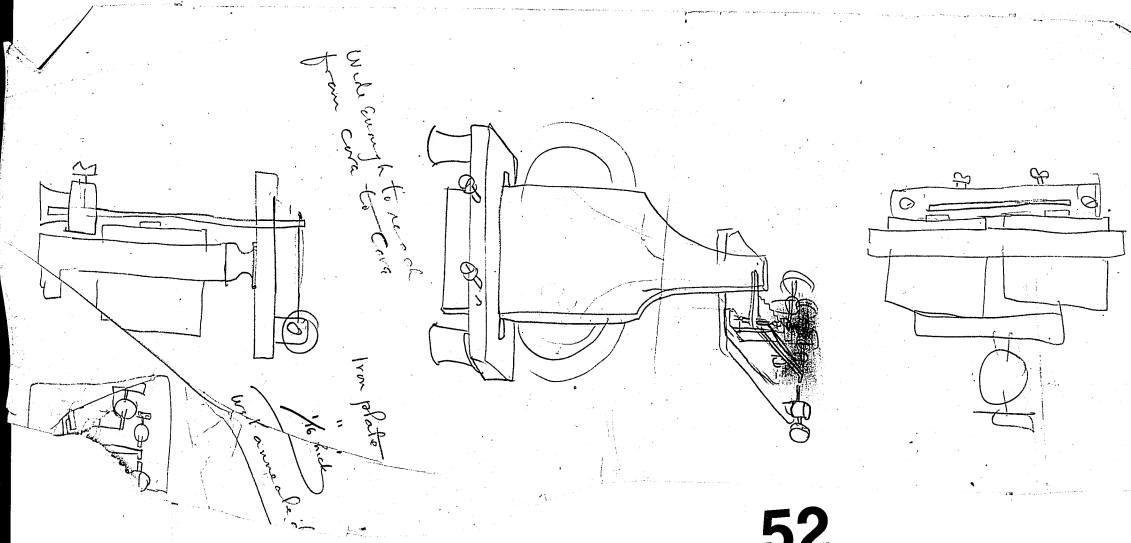
James Adams





July 27

Adams

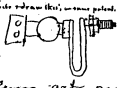

Web bunch to remove from core to core
Iron plate
1/16 thick
11
Weight adjustable

33

Memo:

How about magnetic punching machine? How about condensers about my acoustic application, was Continue Quad for all night. Write specifications for two models showing this and get the model from Phelps.

Mention water spray application, insulating plumbago or other semi conductors with non conducting or nearly so conducting frequency changer in magnet. describe & draw this in some patent. show this & below

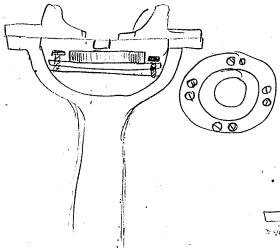


Jr vacuum chuck from get paper = air thru pen
thru - " get rid of cloth shavings etc
get the bi - application sent me by Sewell.
Write Spicer or Eaton for Submarine Telescope

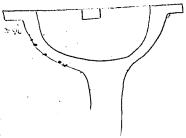
James Adams

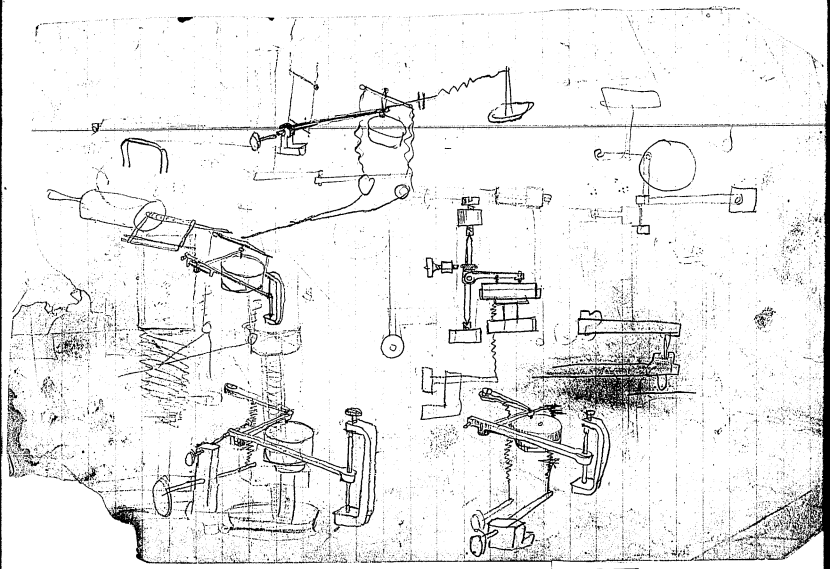
53

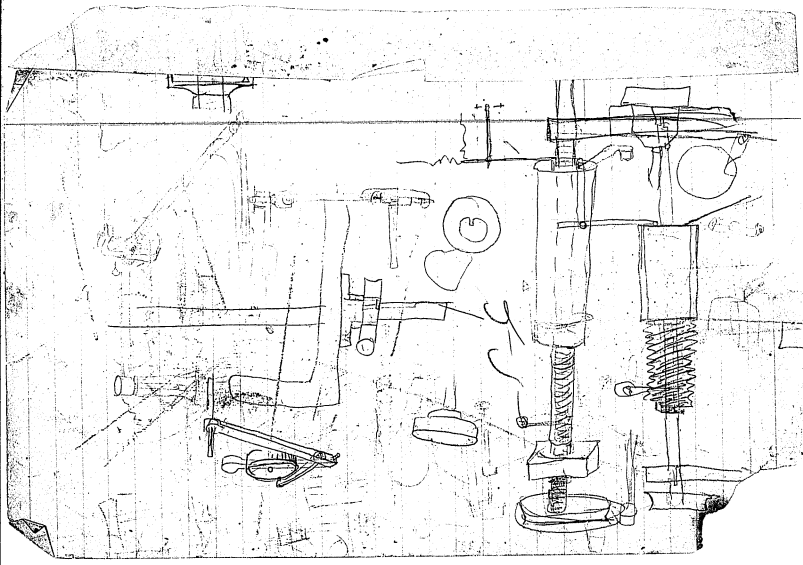
Speaking telephone

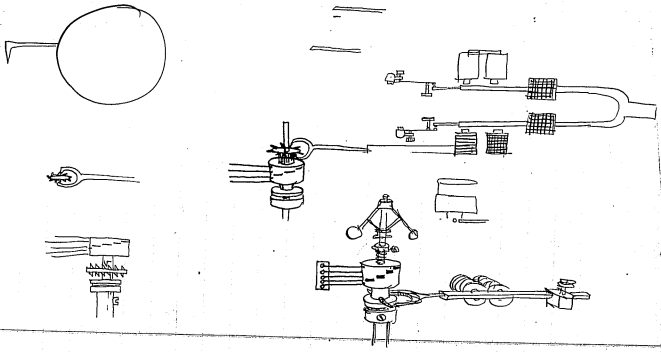


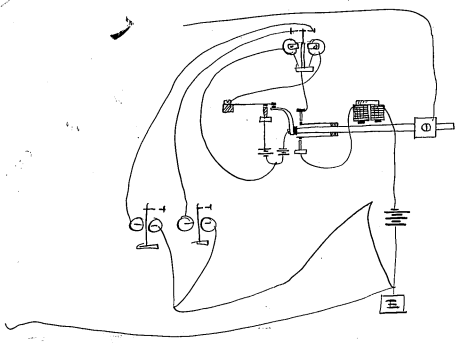
Make one like this











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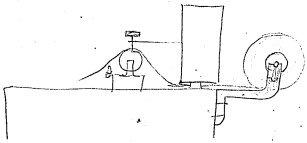
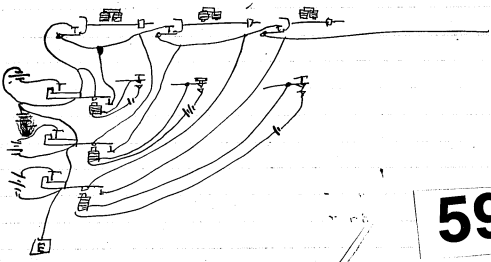


58

Correct Model
Coil at also model,

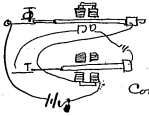
See if gg wheel is
Connected, or model



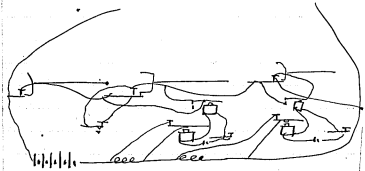
59

EDISON'S
Electrical Pen & Duplicating Press Co
41 Dey St New York.

Chas. Batchelor
Gen'l Manager P.O. Box. 3207.



Compensation



60

EDISON'S

Electrical Pen and Duplicating Press Co

41 DEY ST NEW YORK.

Chas. Batchelor
GEN'L MANAGER

Boston 3907.

Chas Batchelor

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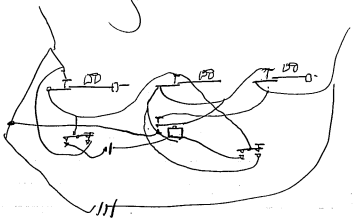

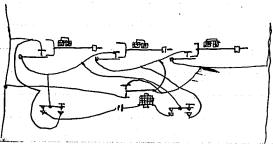

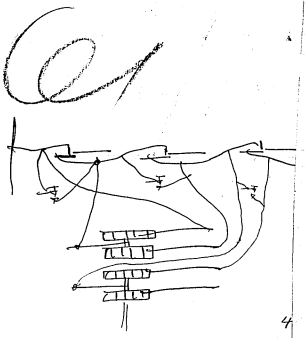

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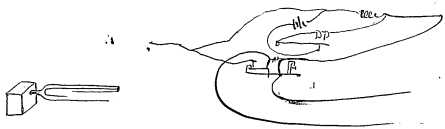
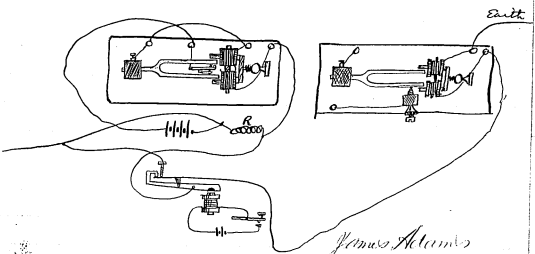
Gold & Stock Telegraph Company,

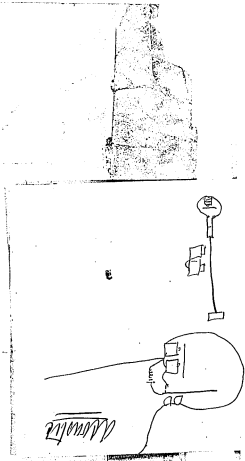
Western Union Building.

Marshall Lefferts, President.
Henry W. Waid, Sec'y & Treas.

New York, 187







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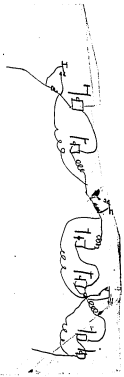

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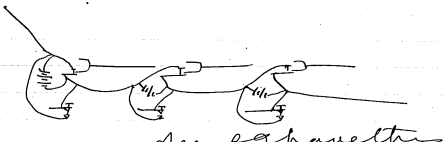
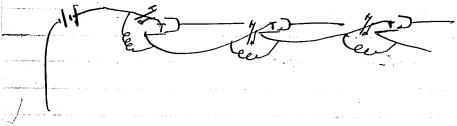
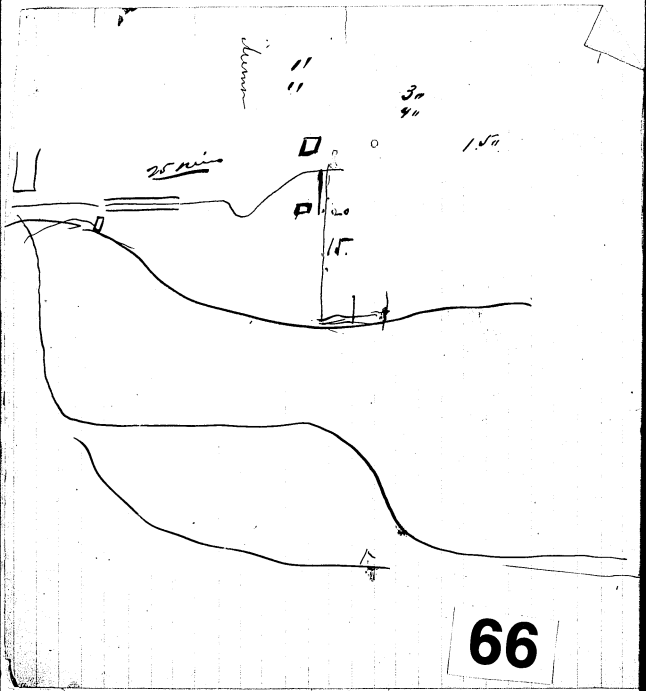
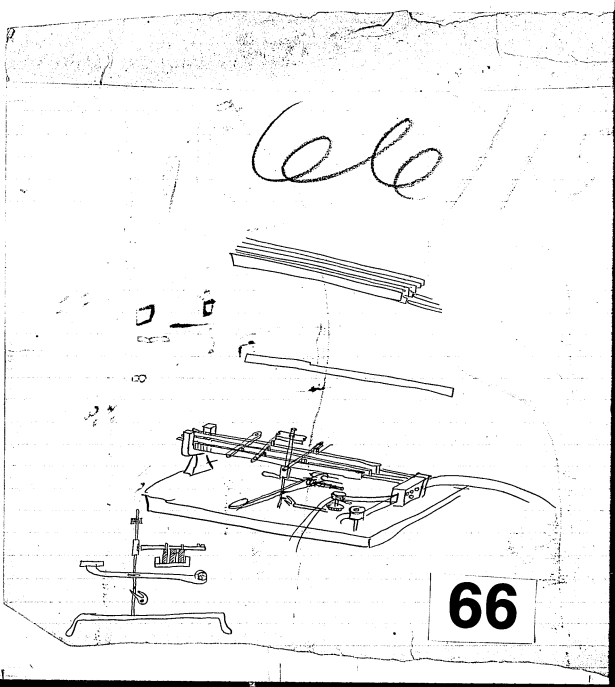


See if I have the Circuit right



James Adams





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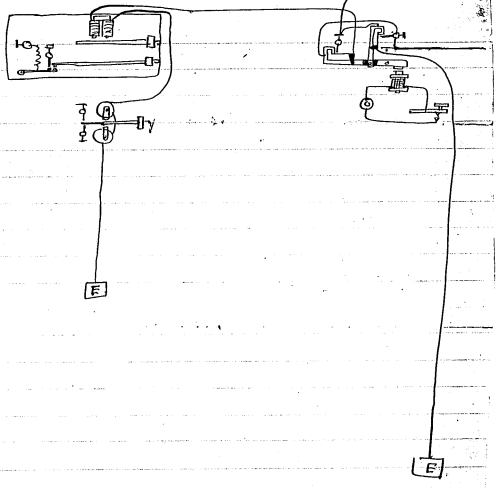
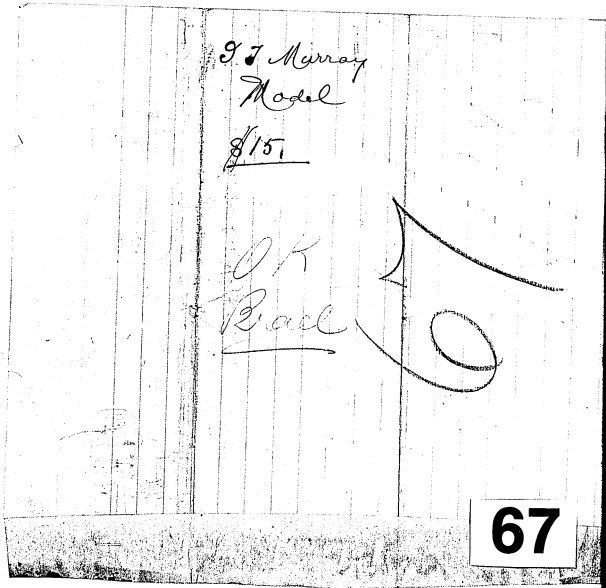


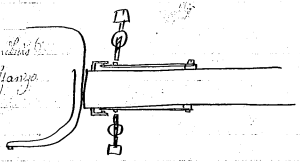
South 32nd St Philadelphia Pa.

67

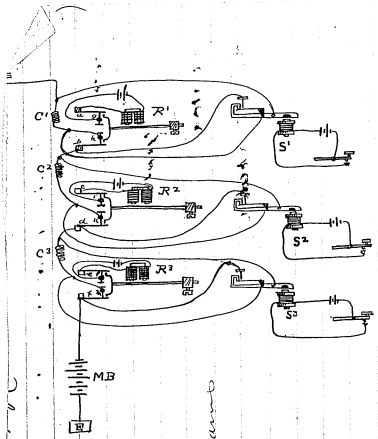

G. T. Murray
Model
$15.
OK
Rail

T. A. EDISON, NEWARK, N. J.

10 & 12 Ward St., 18



Holes 1/2 in apart for the magnets to be shifted by.



68

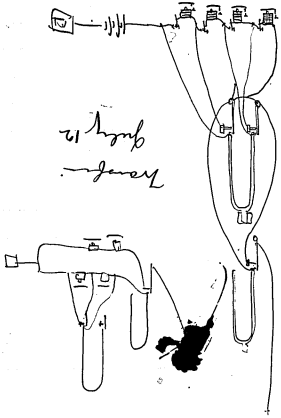
69

Edison's Electrical Pen & Duplicating Press Co.

P. O. Box 3207.

41 DEY STREET,
NEW YORK.
MANUFACTORY:
MENLO PARK, N. J.

New York, ... *187*



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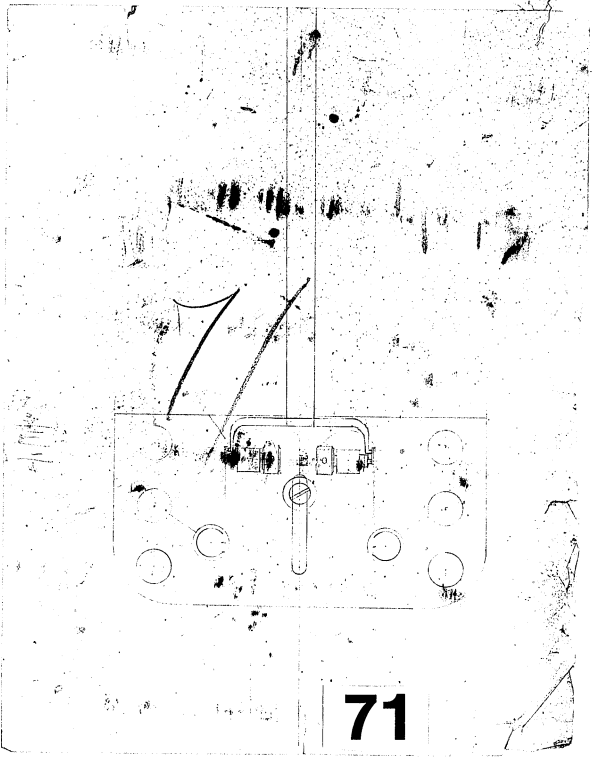
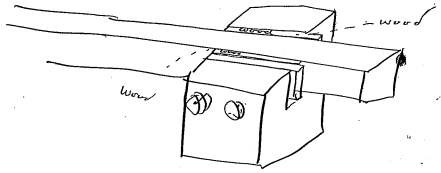
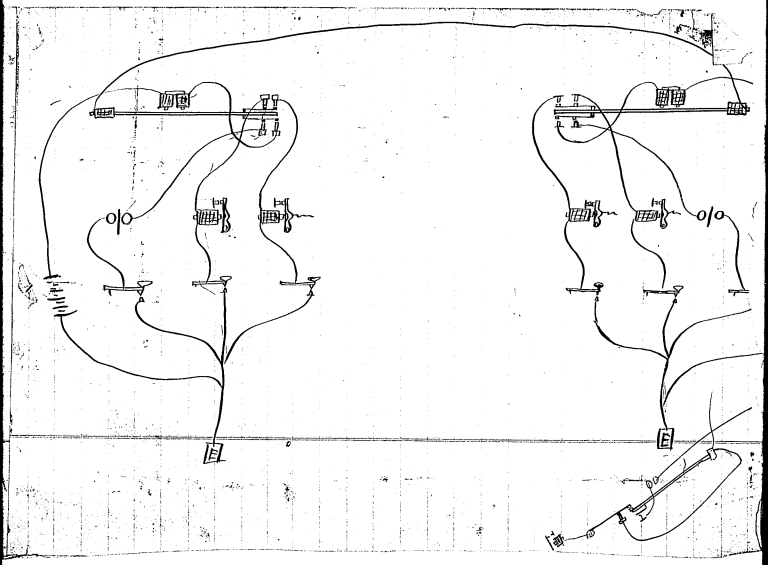


February 6th. C. Wirth

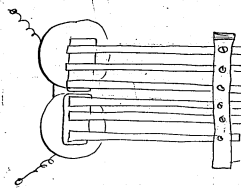
Work

Also make several boxwood pieces - so as to make the transmitting reeds less rigid





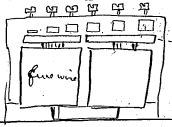
No 1 Instrument



Top view

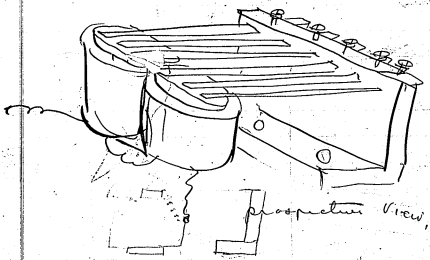
A B C etc
brass

A 18mm
B Little thicker
750 mm

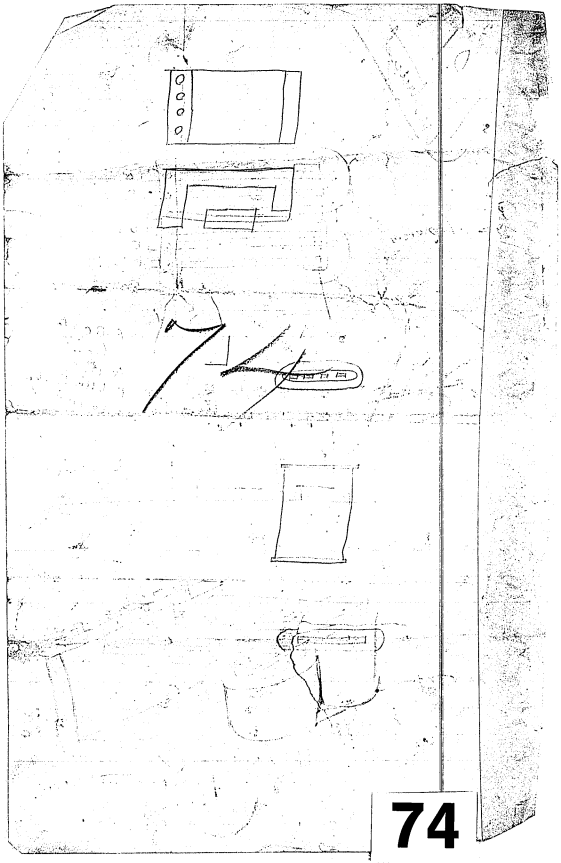


End View

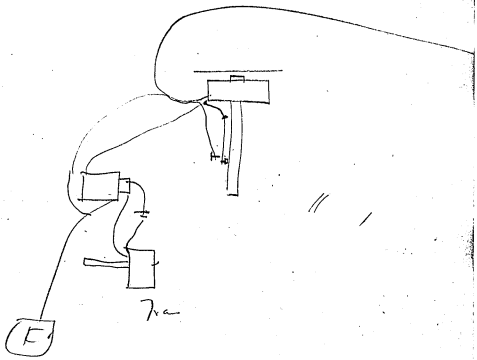
1 about actual size.



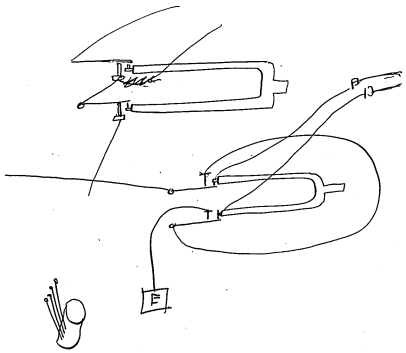
Prospective View

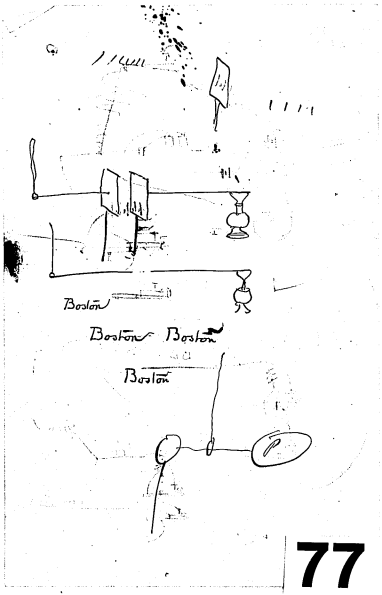

74

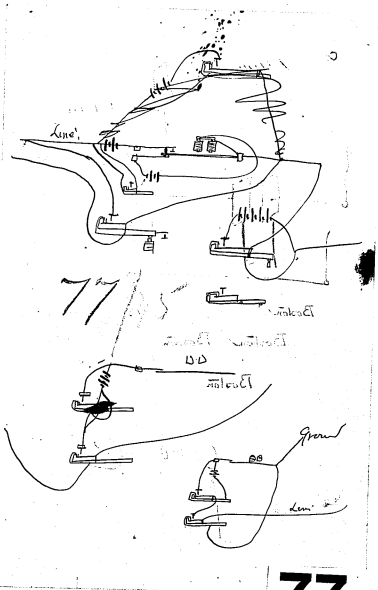
5 Induction Coils
6 Polarized Relays
3 Bells
1 Switches
48 Binposts



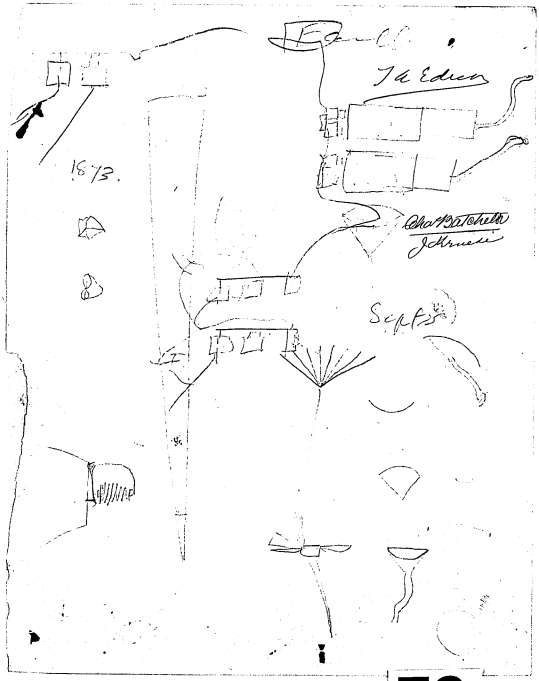
75

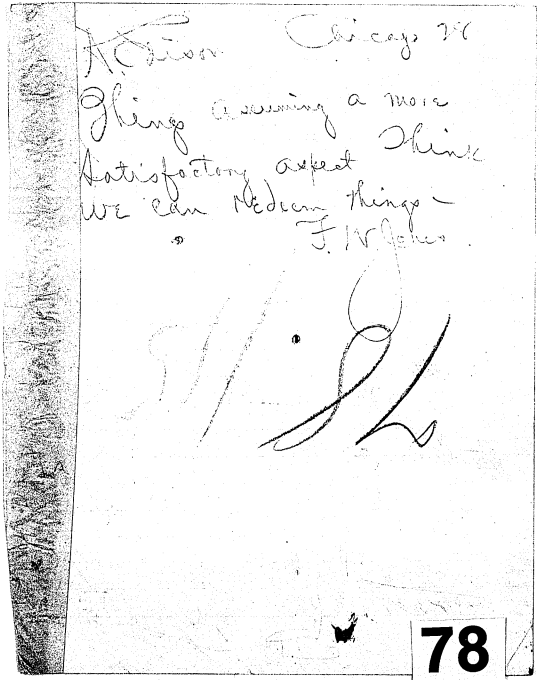



Boston
Boston Boston
Boston

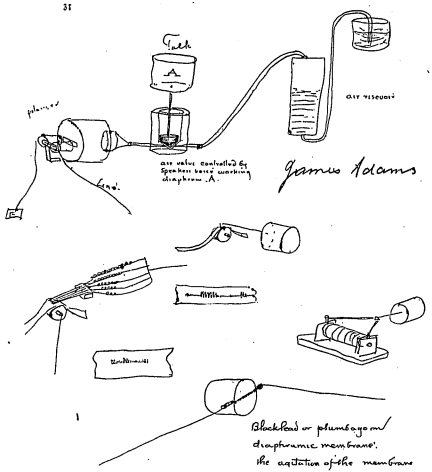


77

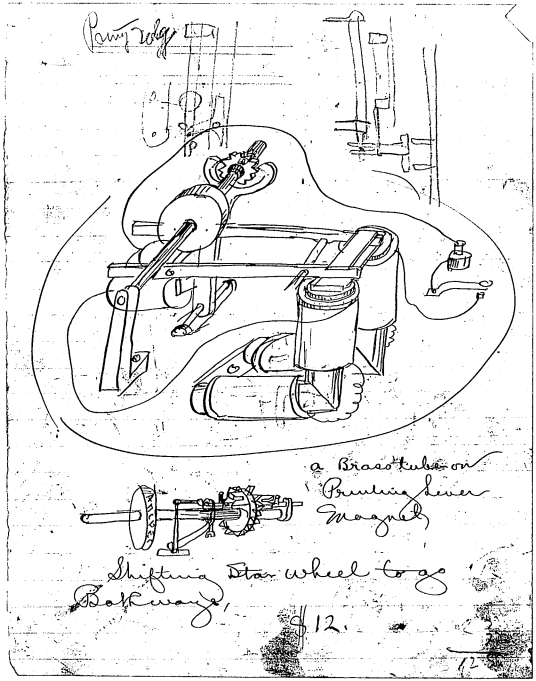

To Edwin
1673.
Chas Batchelder
Johnson
Septs

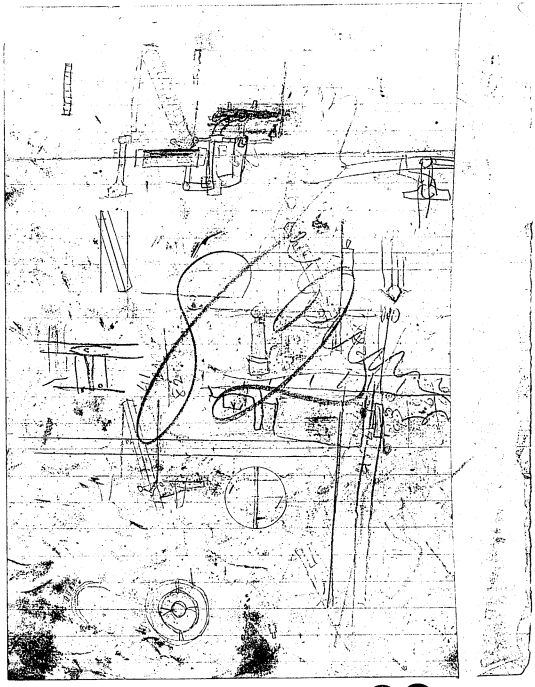

78

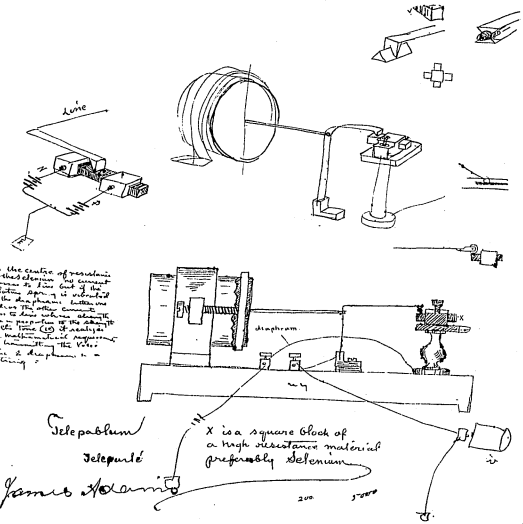
31

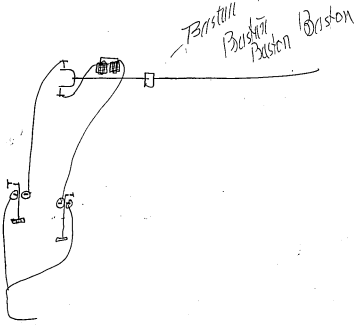


Blackland or plumbago or
diaphramic membrane.
The agitation of the membrane
separates (more or less according
to high or low notes) the conducting
particles and with intensity called
of low quantity varies strength
at each time

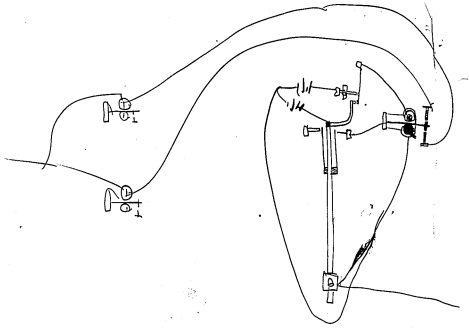

a Brass tube on
Running lever
Magneto
Shifting Star wheel to go
Backwards
12.



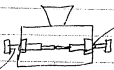

Line
diaphragm
X
Telephone
Telephote
X is a square block of a high resistance material preferably Selenium



84



85



86

Automatic table sending & Receiving with 10 Rolls Tower Cyanide Paper =

Rowan Setter/Punches up Stamps =

Clean up, Lamp/Engine make a new Battery & Clean it nice & start it going =

Electromotograph set it up with Key. Run wires to it from 6 battery so you can put any number of cells in but in Rheostats. 4. to form a line, & round it with a magnet =

Bring up 1 Large Acoustic Instrument, fix it with 10 Cells Caddand (10) run wires to Battery want to show it off =

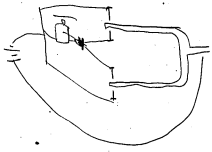
Get Electric Pen, Press, Battle Ink & paper for showing it off =

Set up the old Embosser, with 5 Cells Carbon a Engine, 3 on per magnet. & a Buzzer sounder in repeating Circuit = Cut some paper blanks of any size for Embossing

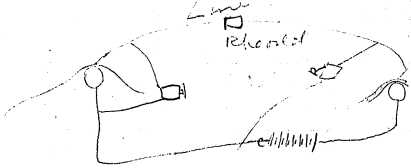
6 of the acoustic instruments, I showed you last night =

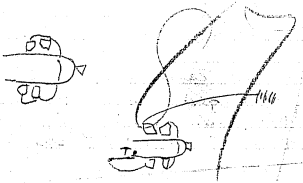
87

Carbon, Battery, & the Electric Sounder Tools =

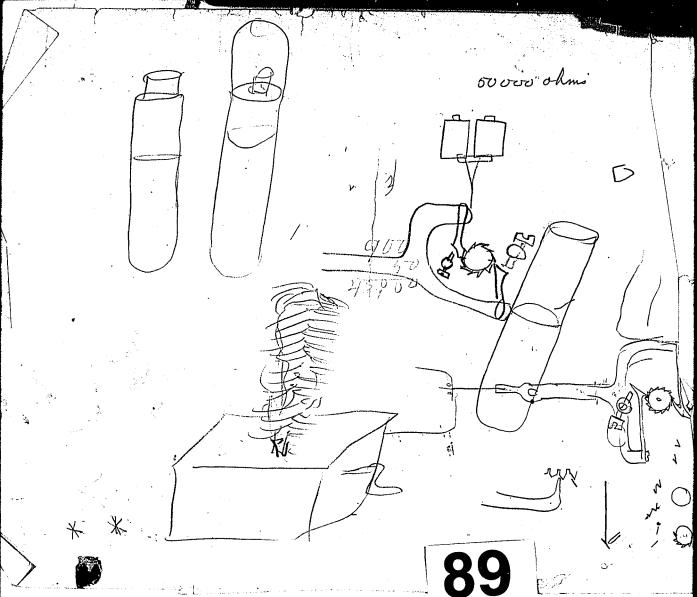


88





87

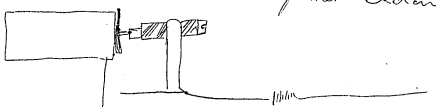


90/15 Act - 5 + 9 - 1880

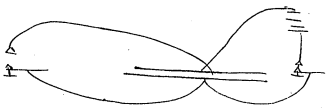
Gen Rel Interference

39

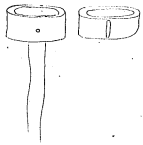
James Adams



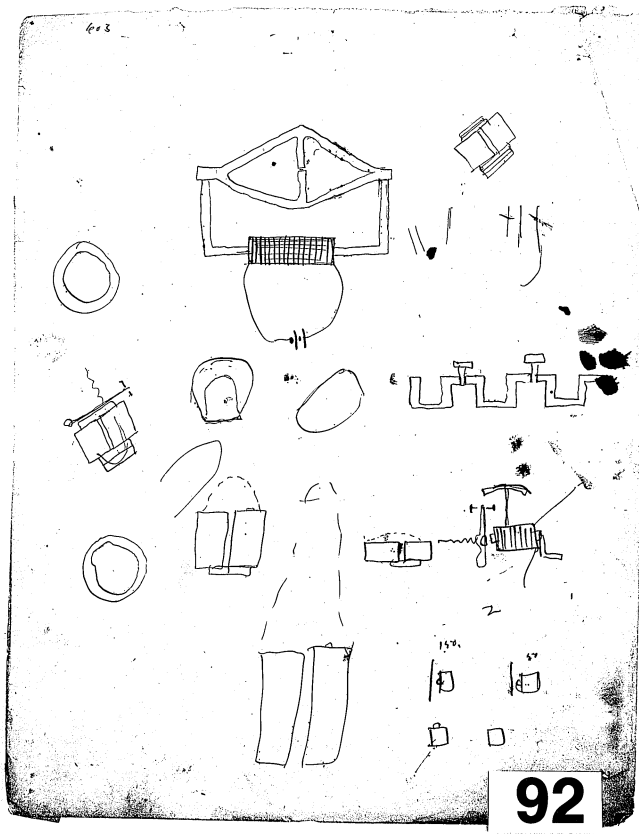
Platinum Point & Brass Instrument tried Platinum with Different Chemicals could get it lower Magnetization not very good



608

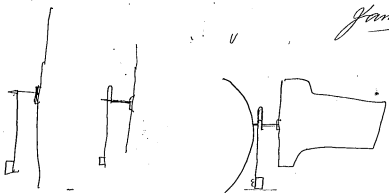


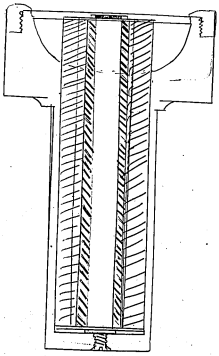
Sleeve for holding parts in work slot in screw feed to cups.



1915

James Adams





OFFICE OF

THE DOMESTIC TELEGRAPH CO.,

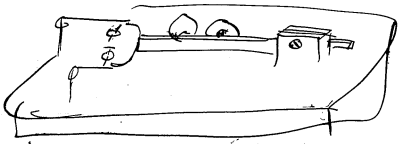
NO. 12 VESEY STREET,

Gen'l T. T. ECKERT, Pres't.
J. C. REIFF, Vice-Pres't.
ALEXANDER MORTER, Act'g Sec'y & Treas'r.

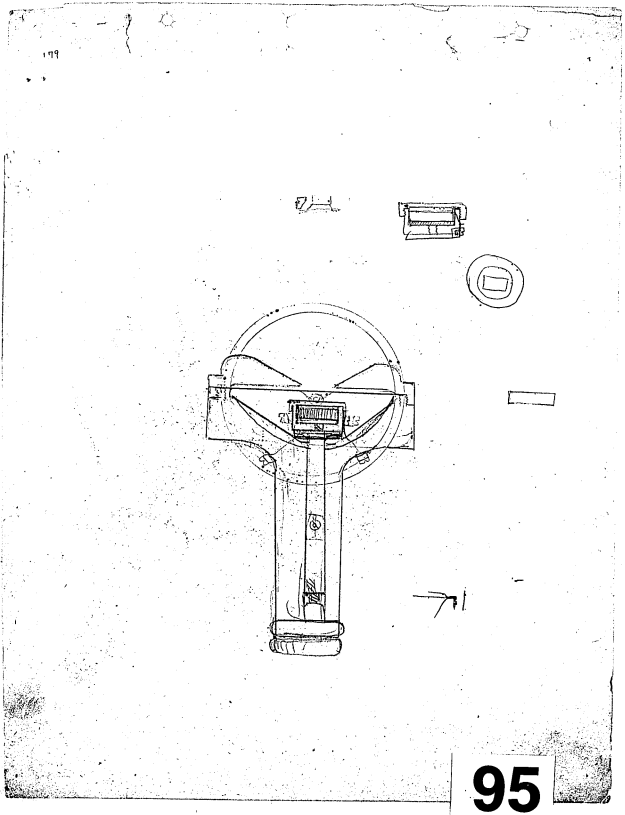
New York, ... 187—

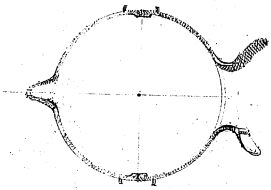
February 15

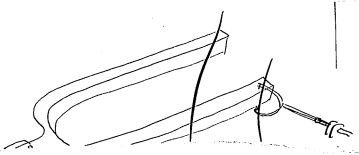
I want 3 old transmitting Reeds



fixed up. also I want 3 of the old Receiving Reeds fixed to go with them =

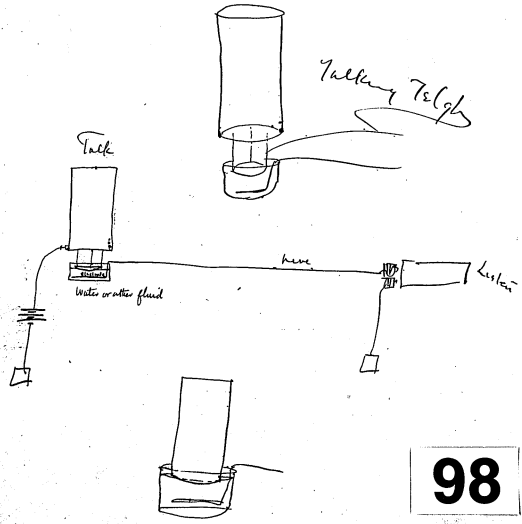


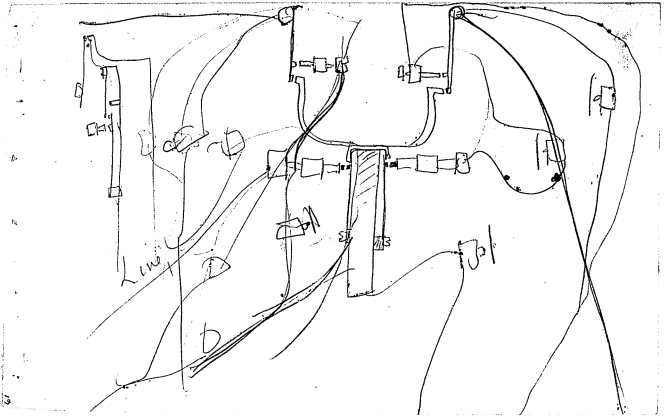




by placing the device direct upon the fork or reed =

Fig





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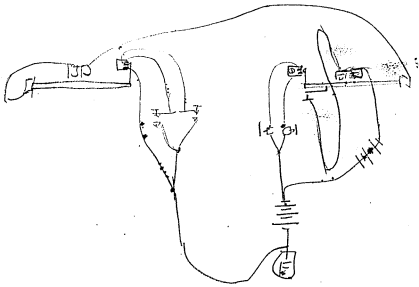
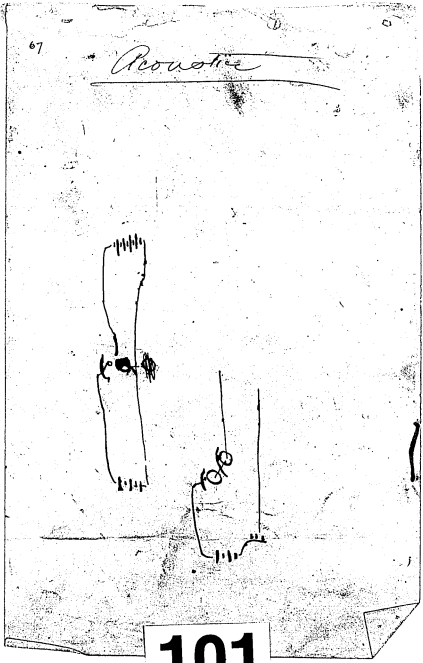
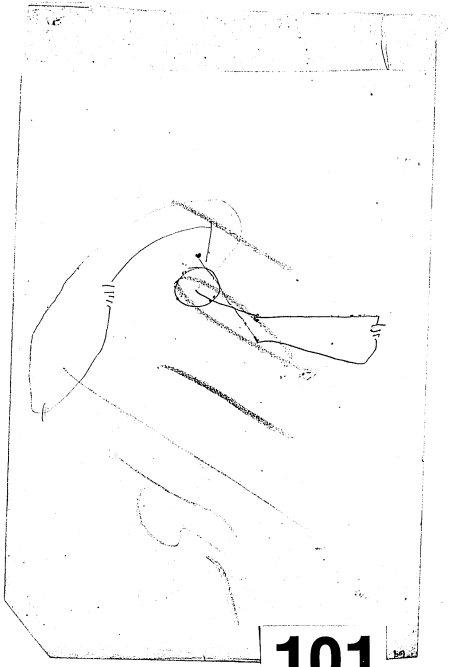


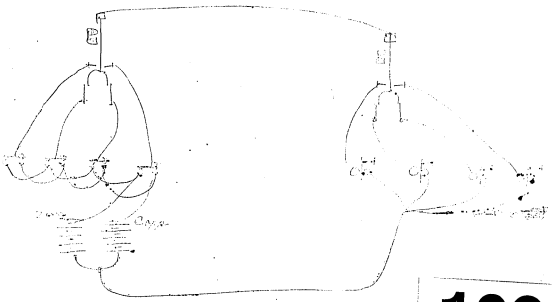
100

67

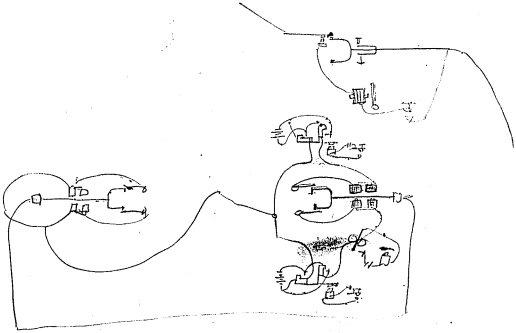
Acoustics







102



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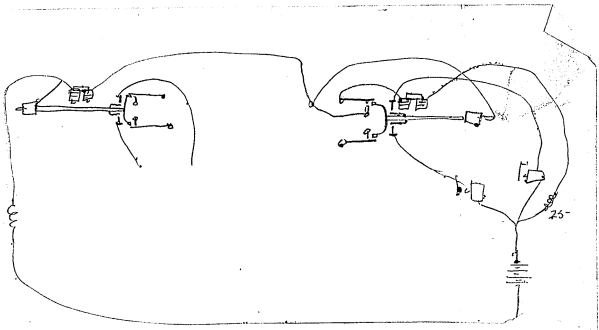

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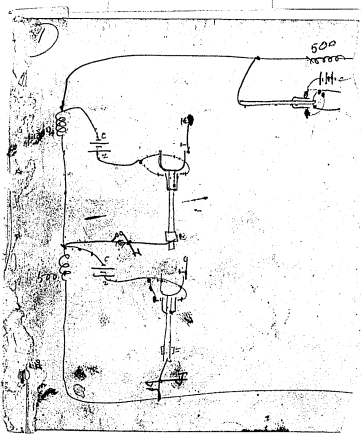

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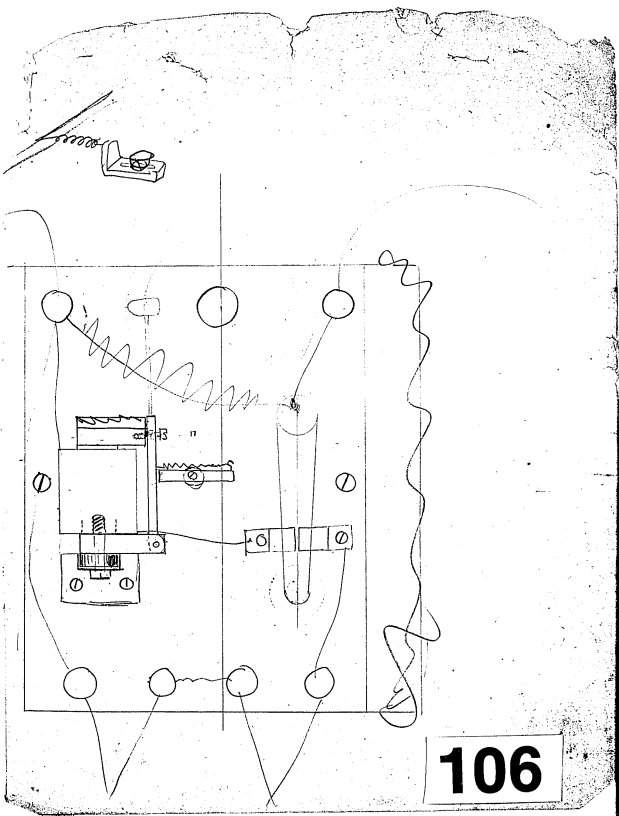

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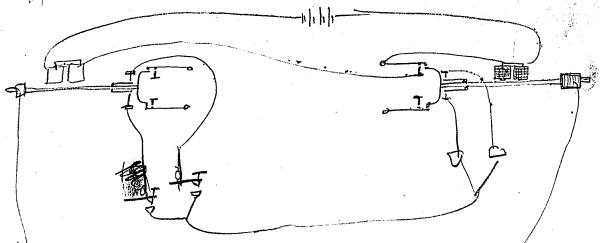
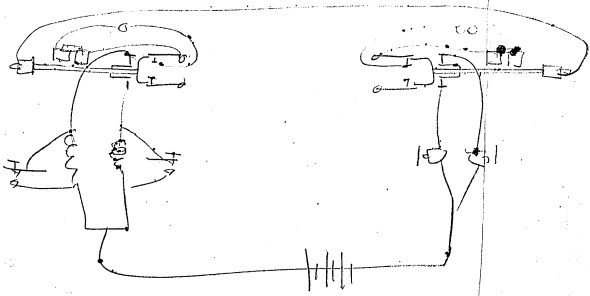


Apparatus whereby I wind with aerials adjustable
wavelength whereby another wave on two sets of
coils at once ~~at~~ relay 2 complete waves of a single

107

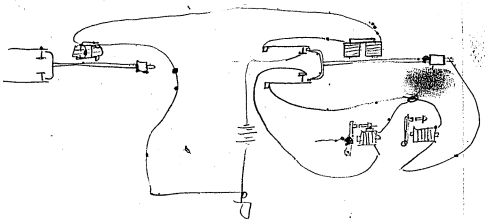


108

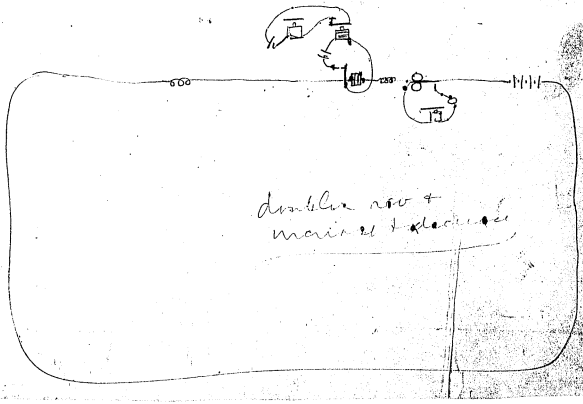
One = for instance Gut my + Washin I would
Consider the direction with accoustic Reed
Items need can make Control so as
to double 10 or 15 [illegible] both
through + with wood plates
May 30th 1936 — Jack

107

108

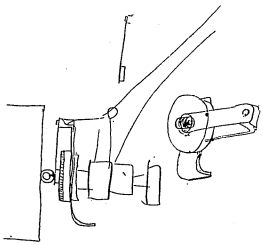


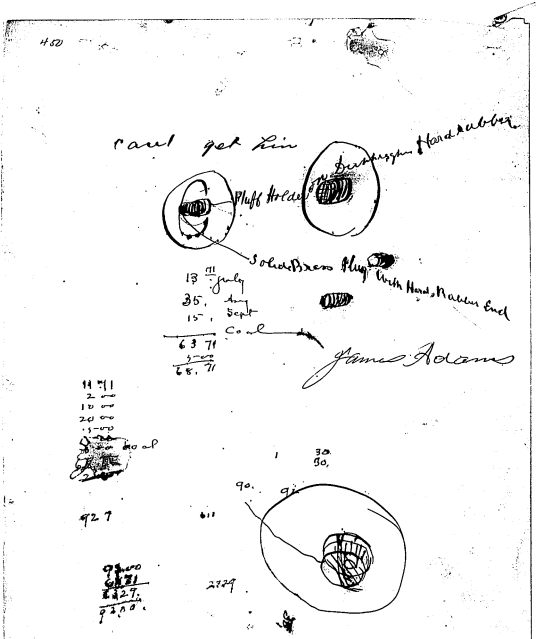
109

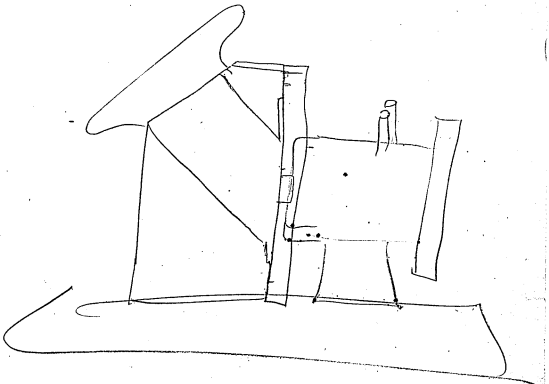


110

EDISON'S EXHIBIT. 111—15.




Plugs Holder
Solid Brass Plug
Cord
James Adams



13 is found ~~many~~ may be used perhaps for sending or Envy

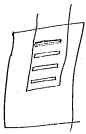
Mark how this is found to parties of Balls sleeping ask Conductor or brakesman to point it out but hand to some employee of Train in any Cross mark Package thus

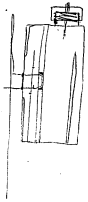
E M Jackman Baltimore Md Central Baltimore Care Porter of Baltimore Sleeper

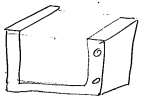
Upon delivering of this package Clerk of ~~Hall~~ C will pay 2 dollars Important now

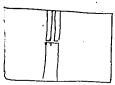
501

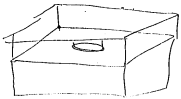
James Adams











Boston

Boston

Telephone

Telephone

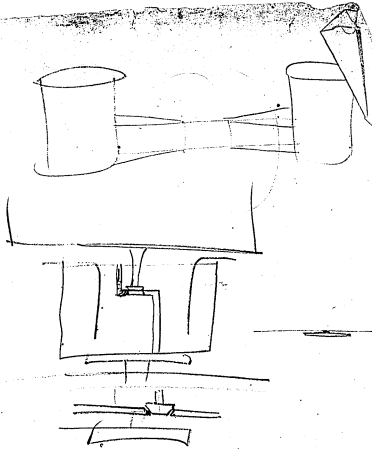
Telephone

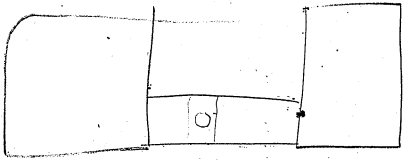
Telephone

Telephone

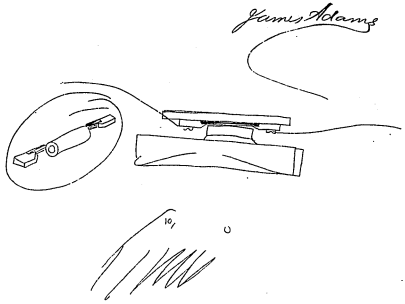
Speaking Telephone

115





EDISON'S EXHIBIT. 117-15.



EDISON'S EXHIBIT. 118—15.

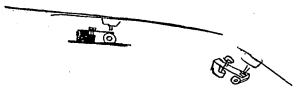
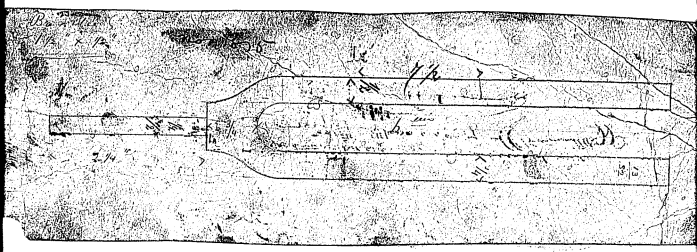


Exhibit 118-15
L.L.G.



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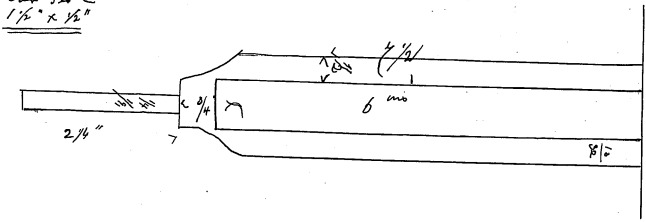

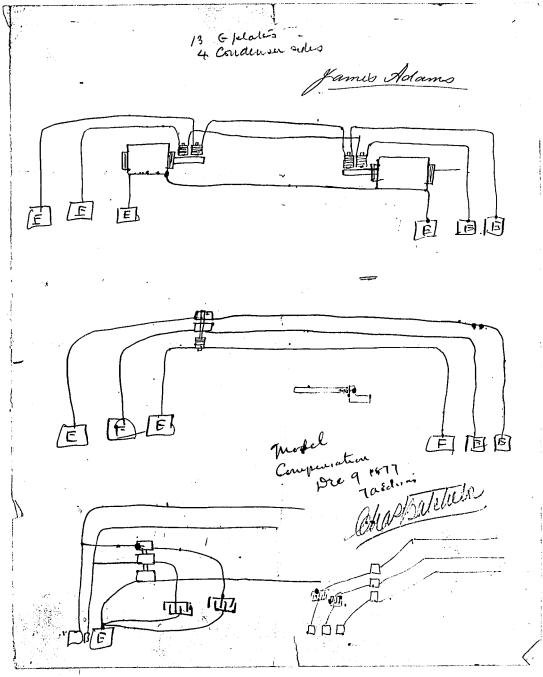
13 Gelatins
4 Condensers
James Adams
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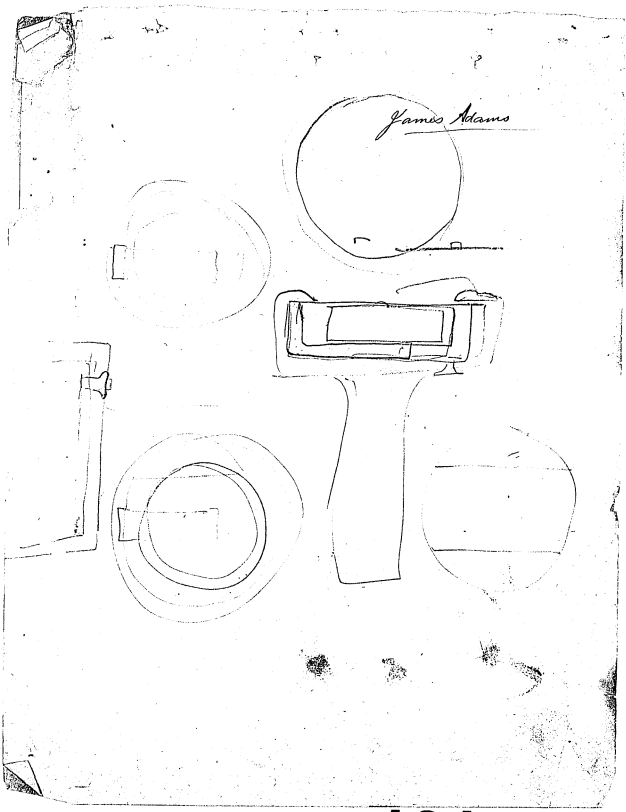
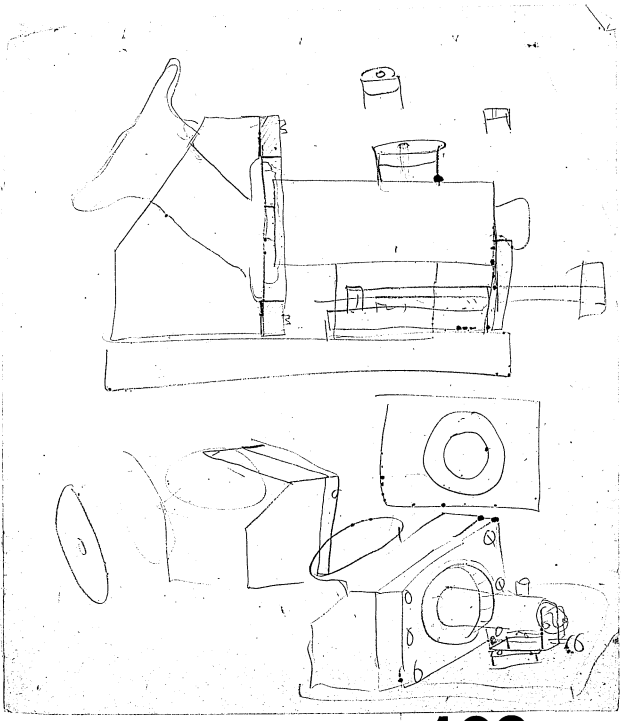
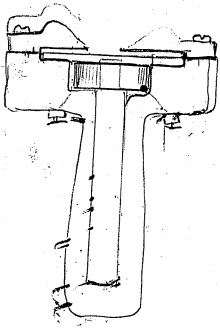
Model
Compensation
Dec 9 1877
Taselius
Chapter Title


James Adams





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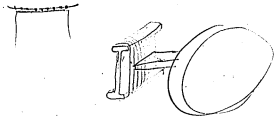
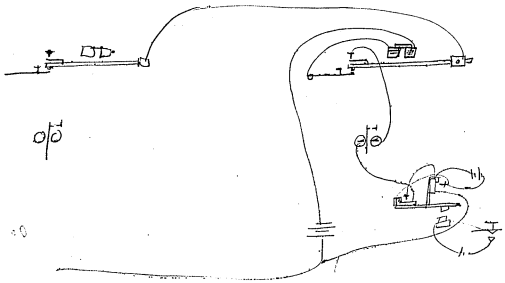
124





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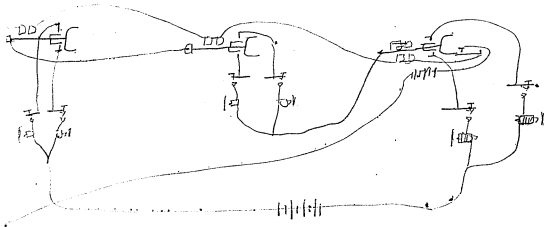

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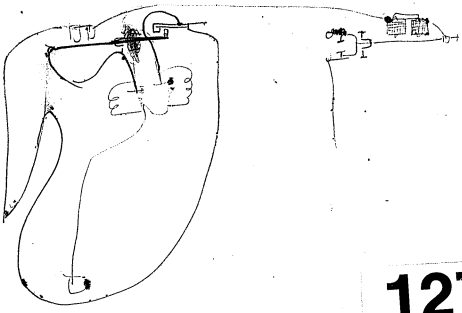

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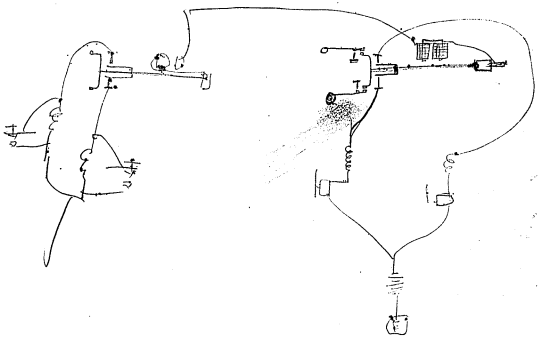

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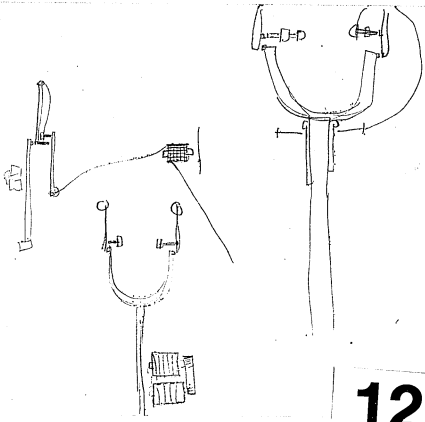

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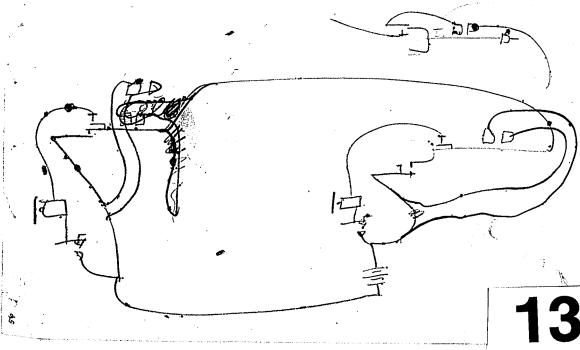

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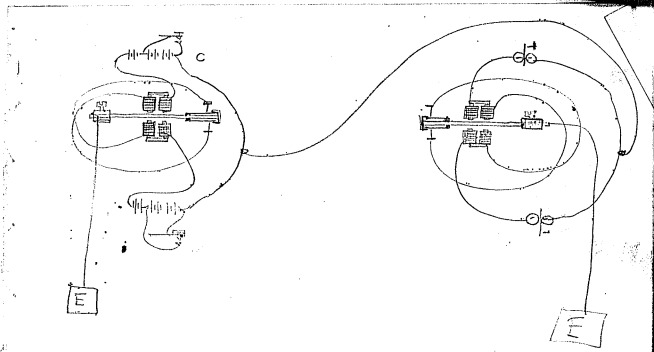

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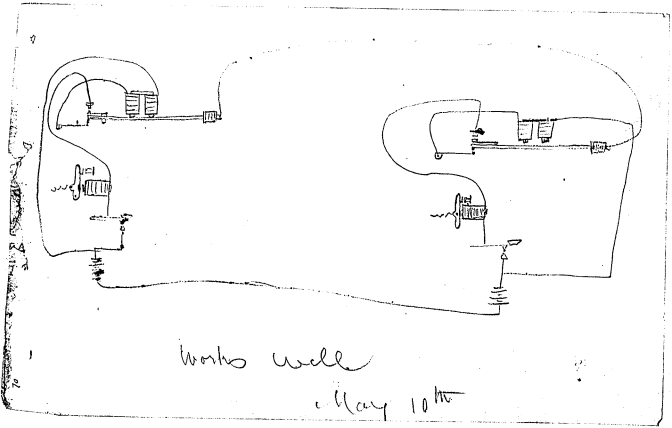

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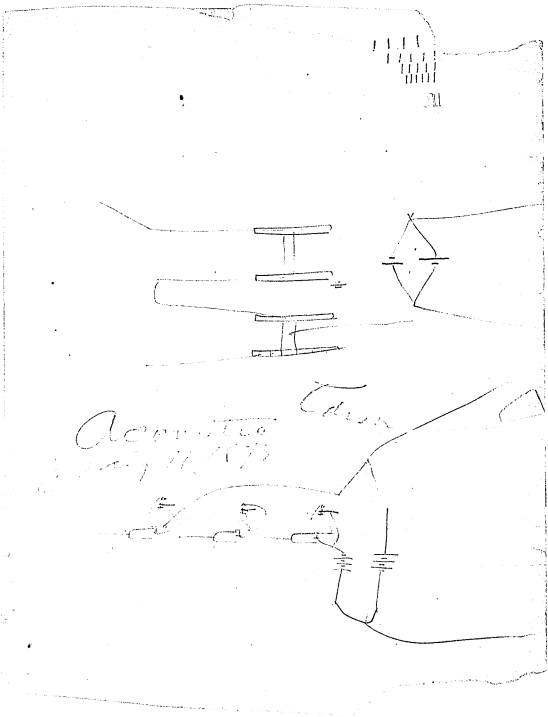
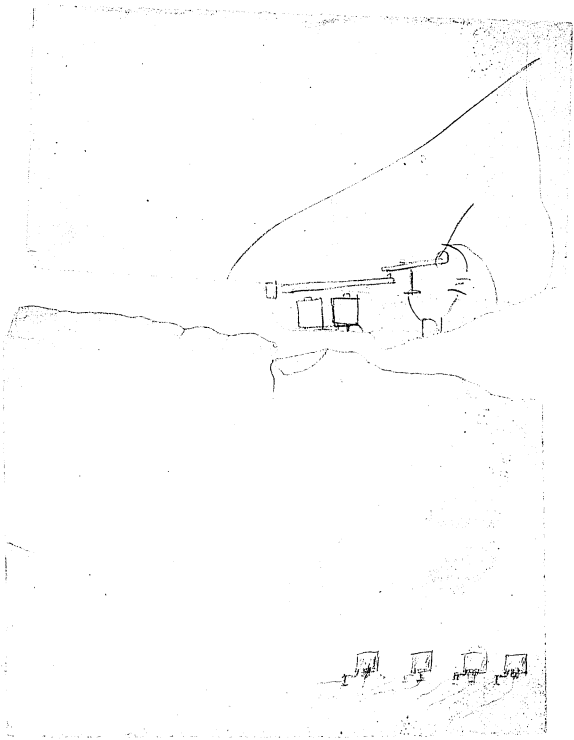
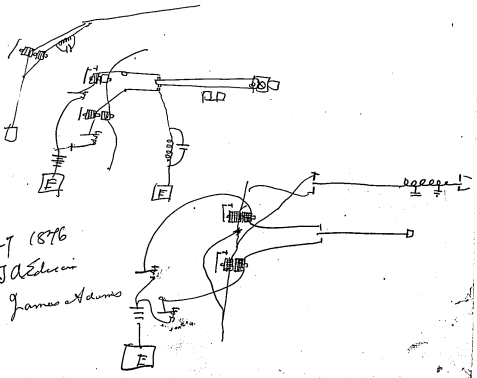
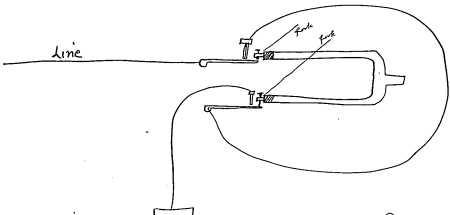




found that I was no go.
With keys open any particular
one would work OK but when
you closed say 3 & worked 2
& adjacent right 2 would
work OK but when 3 was opened
& armed change adjustment of
2 maliciously -



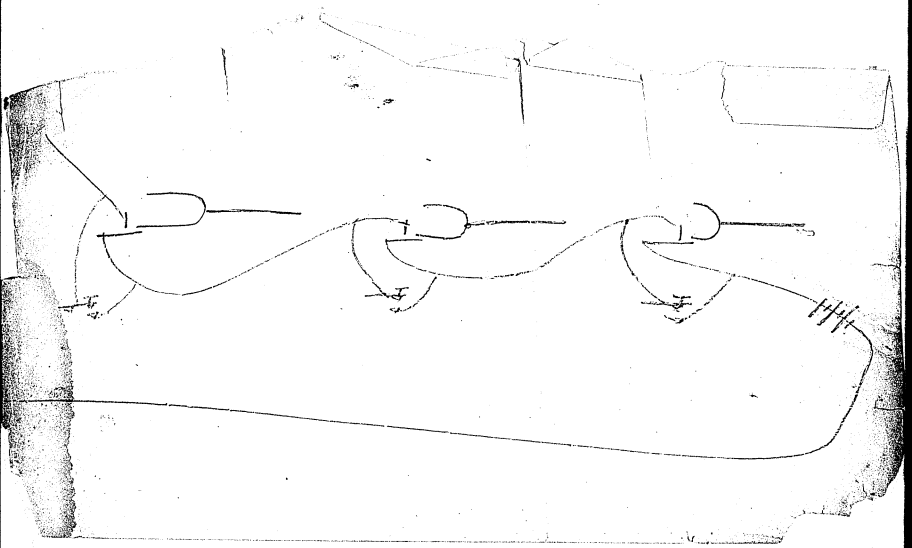


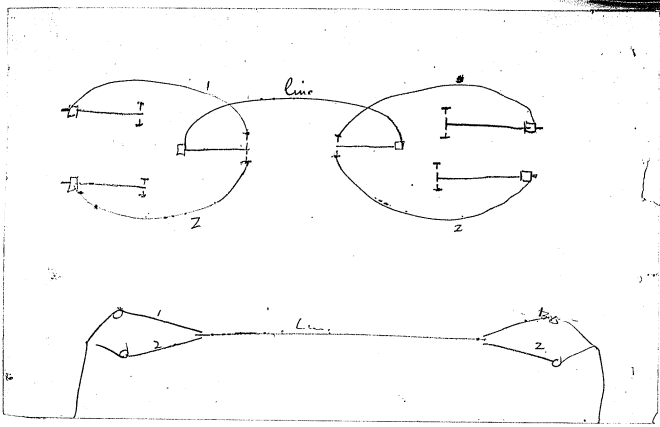
Putting an Ground on Multiple fork.

This ground Can be put on at the various way stations along the line =

July 28 1896

Thos A Edison





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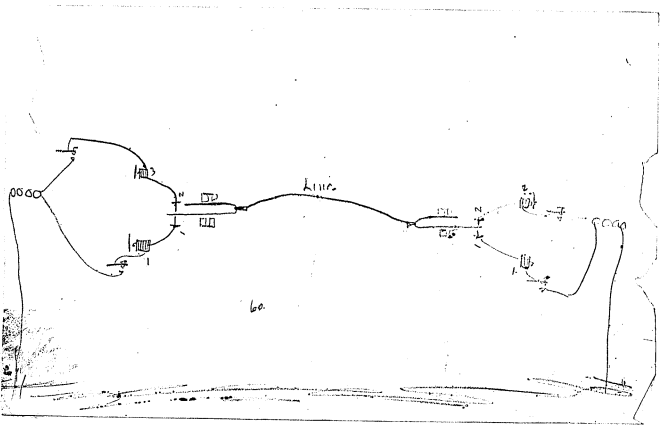

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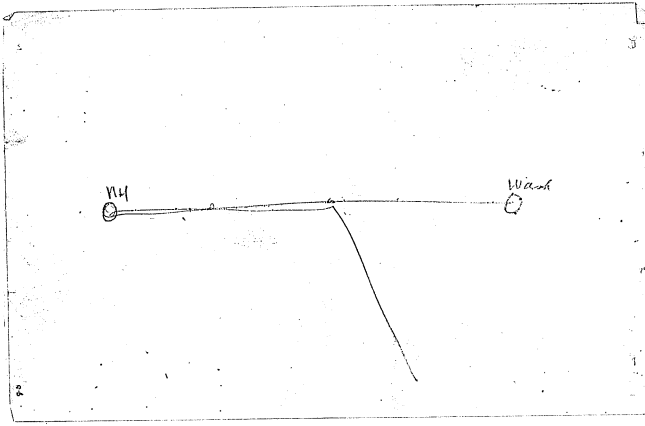

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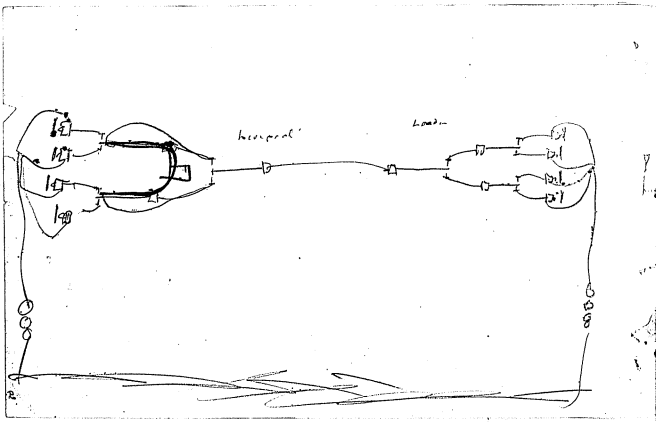

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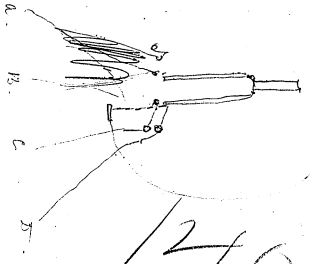

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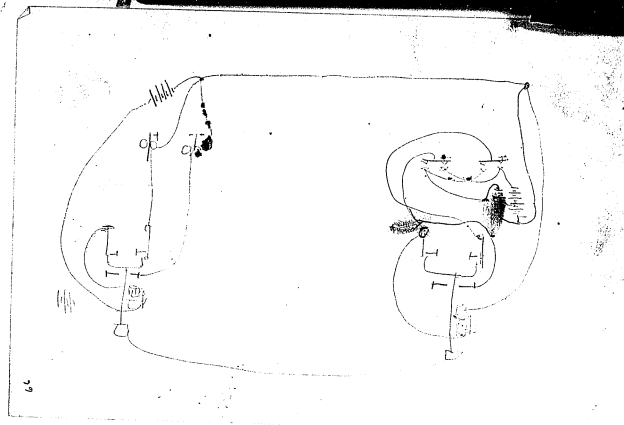

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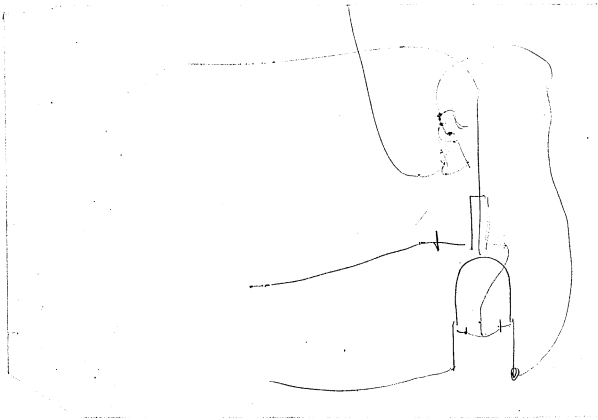

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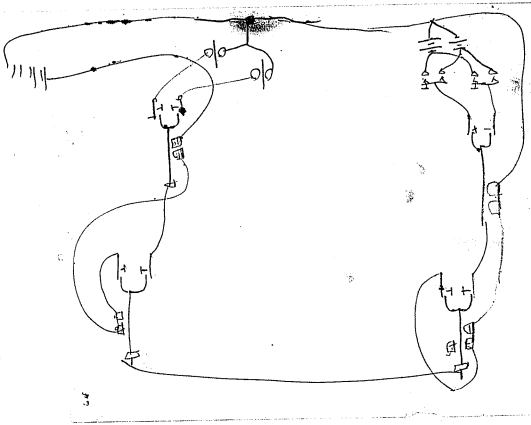

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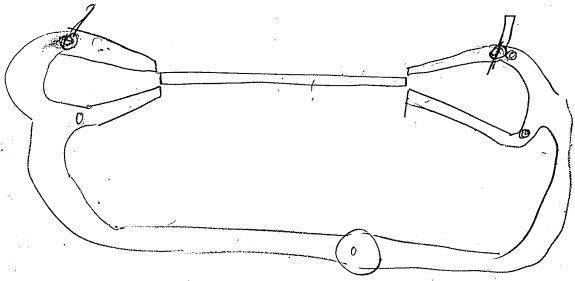

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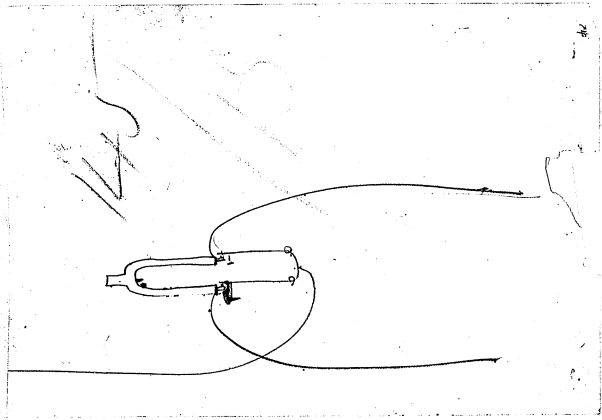

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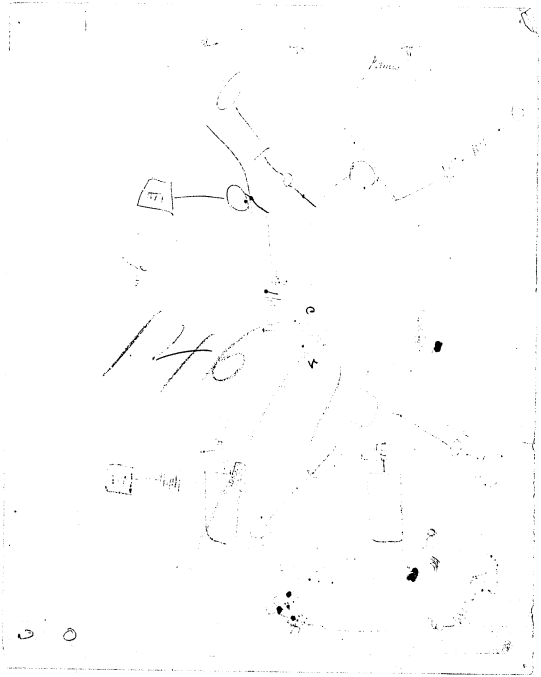

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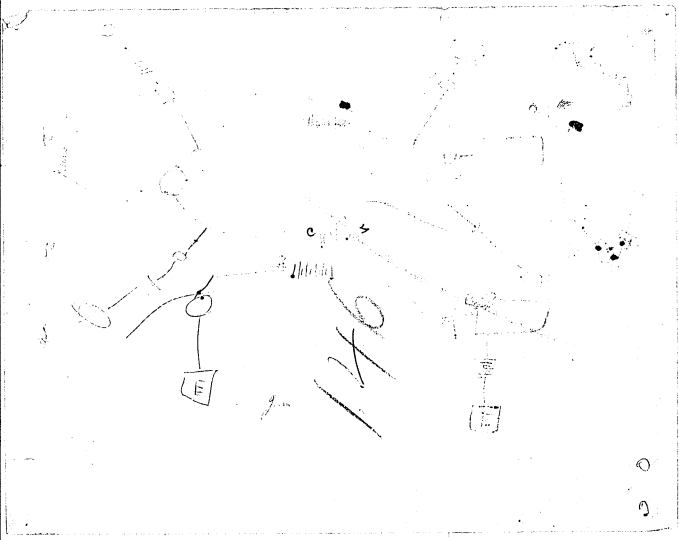
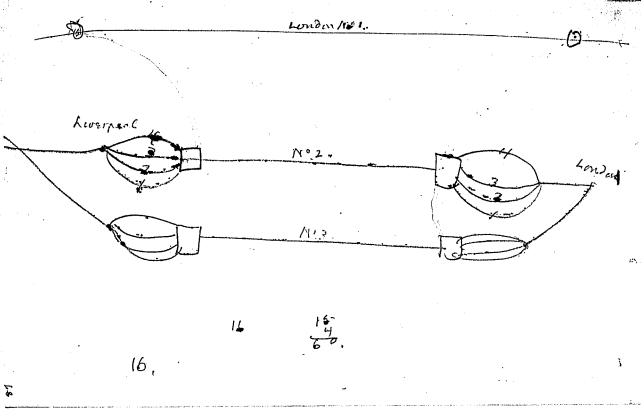


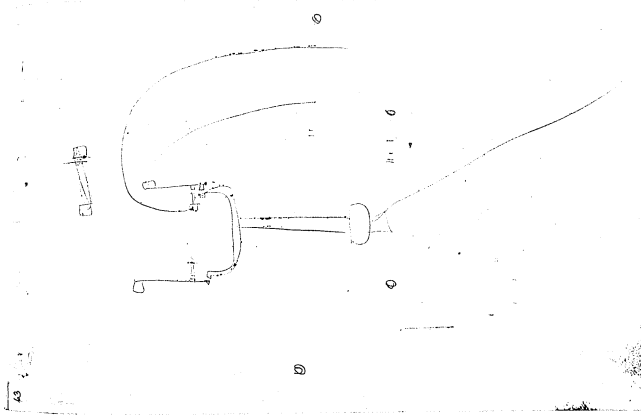


16

16 1/4 6/0.

16.

147



148

547

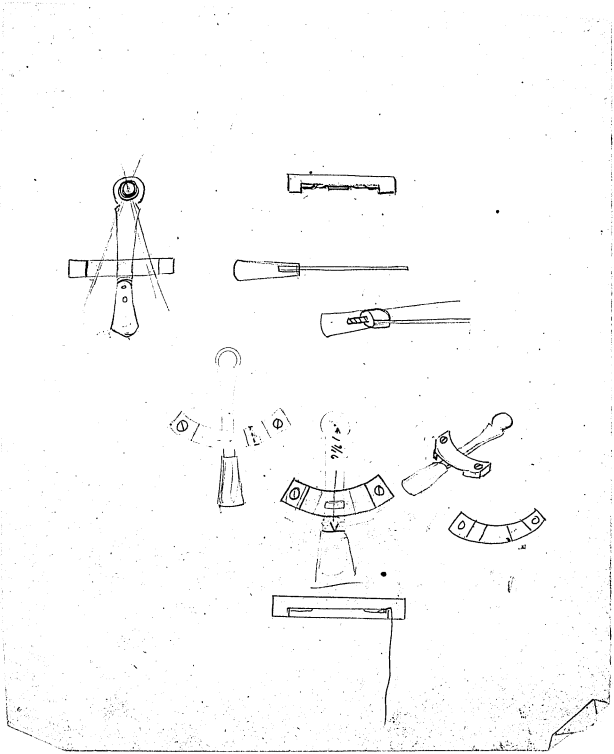
6 Speaker

1 turn inside mouthpiece first
2 Cut thread on shanks
3 Face up body, cut thread, screw in shank, and turn off shank, and bore and ream it
4 Chuck shank, turn face true, Cut thread put on mouthpiece turn it up and finish head
5 put body on mounted & finished body

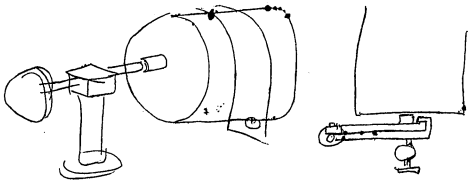
Experiments

Runs		Diaphragm or Nozzle Size	Diaphragm or Nozzle Position	Thermometer Position		Remarks
	1			"		over
"	2			"		over
"	3	Large tin Diaphragm	Tin	C	Z	Stopper over
"	4	" " "	"	Z	C	Ob's & Cor.
"	5	" " "	"	C	Z	our own
"	6	" " Chapparatchetta Johnson Herdman	"	Z	C	our own
"	7	" " "	"	Z	C	our own
"	8	" " "	"	C	Z	our own
"	9	" " "	"	C	Z	with our own
"	10	" " "	"	Z	C	with our own " 57
* "	11	" " "	Tin	C	Z	with our own
"	12	" " "	"	Z	C	with our own
"	13	" " "	"	C	Z	with our own
"	14	" " "	"	Z	C	with our own
"	15	" " "	"	C	Z	with our own
"	16	" " "	"	Z	C	" Does Cancel
	17	1/32 Drone Diaphragm		C	Z	" our own compared
	18	Tin Large		Z	C	" " "
	19	" " "		C	Z	" " "
	20	" " "		Z	C	" " "
	21	" " "		C	Z	" " " Compd.

150

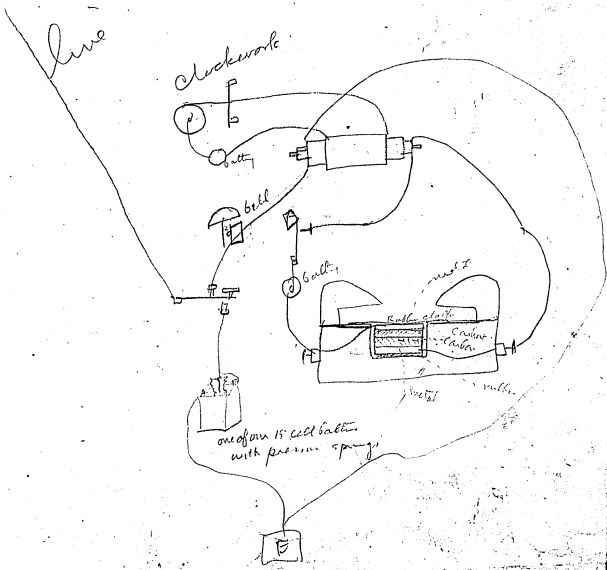


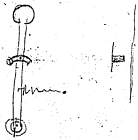
If that fellow dont go away
I am going to Put Lights out
And Put Induction coil on him

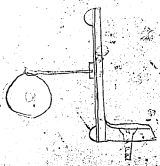


James Adams

Telephone







15

Formula for calculating a fork to give any required number of vibrations per second.

$$V_s = \frac{K e^2}{(l+y)^2}$$

V_s = Vibrations.
K = .818270 (Constant for steel).
e = Thickness of Prongs.
l = Length to bottom of curve.
y = 4 m/m. Constant for base.

All measurements in millimetres - to convert inches into millimetres multiply by 25.4 (near enough)

Example. Given fork. .6 long. × 3/16" thick.
To find the vibrations.
3/16" into m/m.

25.4
3
8776.2
4.525

PIP 2 7 0
4.525

40913.50
16365.40
4091.350
736.443.0
179402.4375.0

818270
9
7364430

154

25.4 m.m.
6
152.4 + 4
4
153. 4 Clear out Decimal.

~~102) 77794.81 75~~ (500
~~306~~
~~402~~

153
156
936
780
156
24336

24,336) 7794.81 75 (320. 2
7300 8
49322
48672
6501
72

Ans: 320. 2 Vibrations.

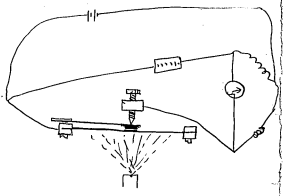
Springs on Electrodes
so that the separation
of electrodes can be
adjusted

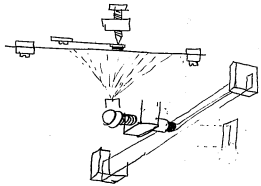
Adams

155

Telescope

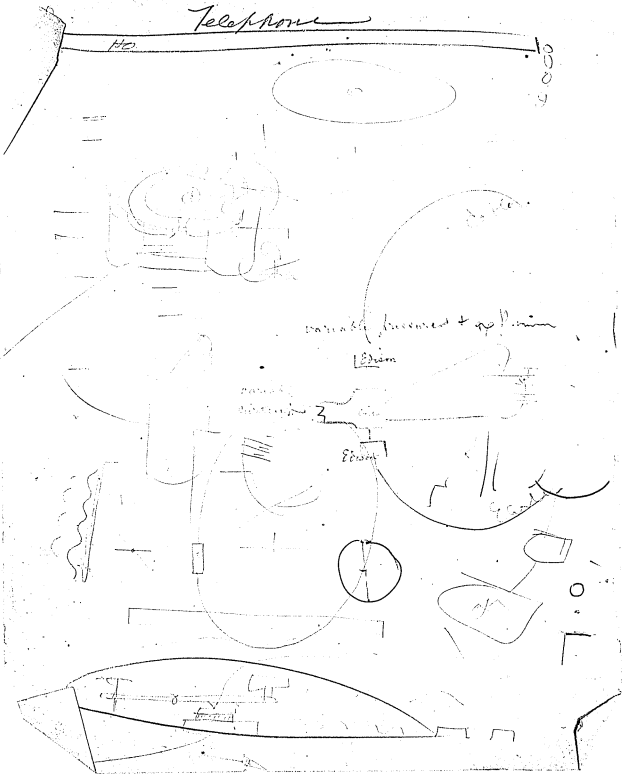
Laparoscope

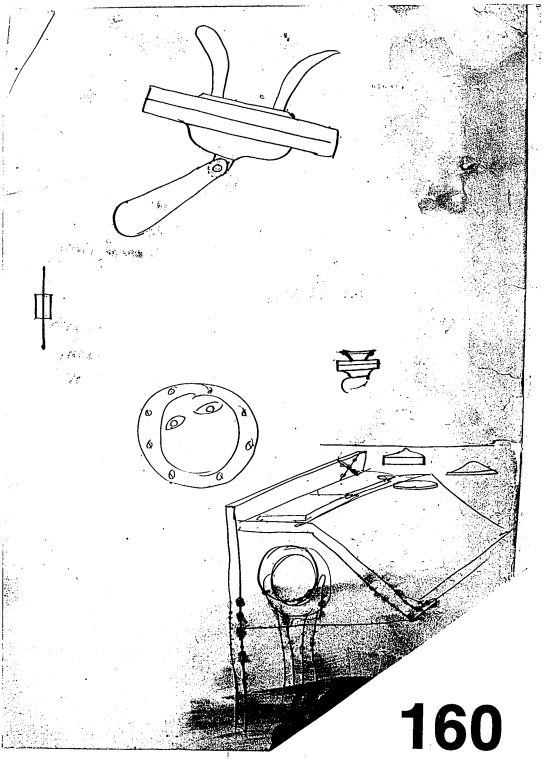


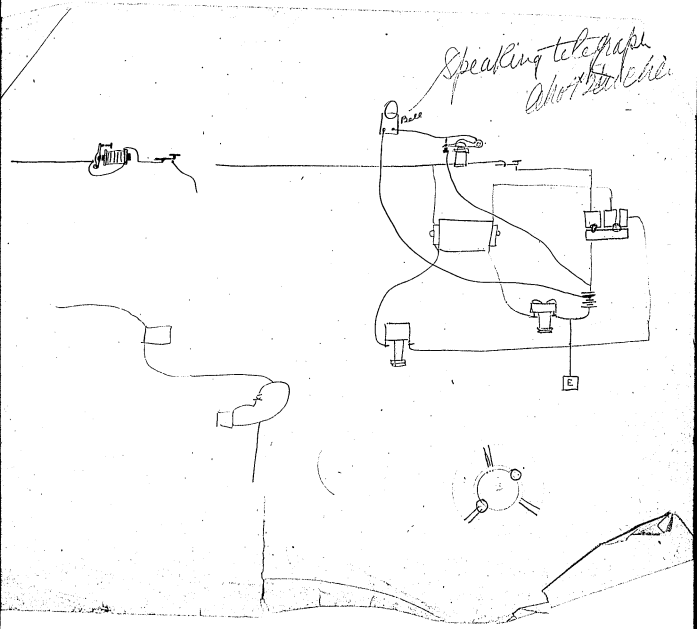


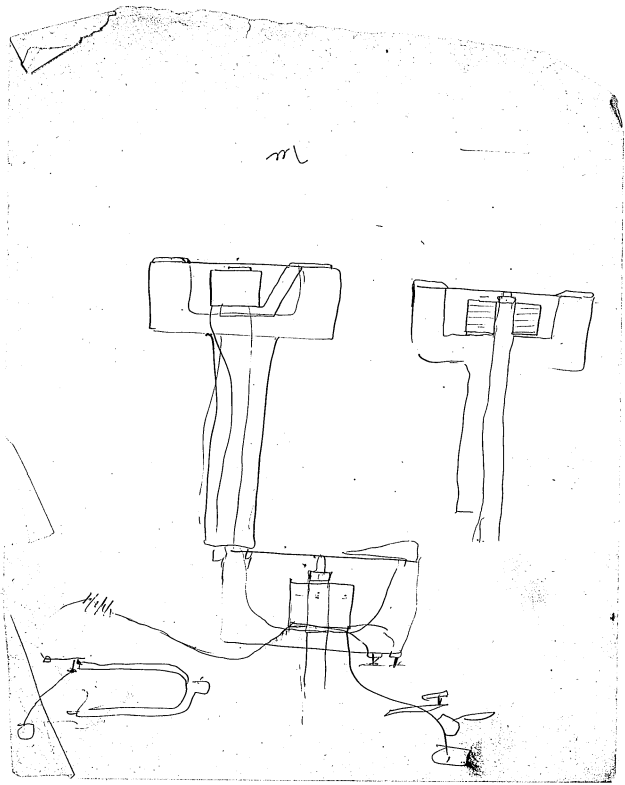
156

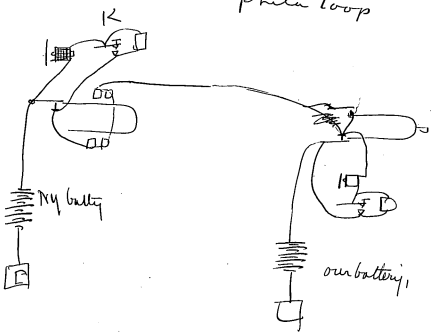
157


Telephone
HO
8Diam
8Diam

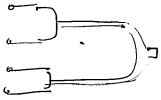


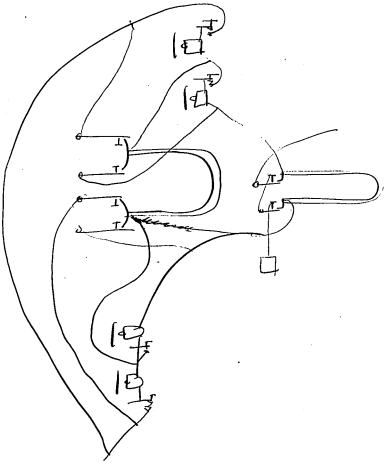

Speaking telegraph
Bell
E

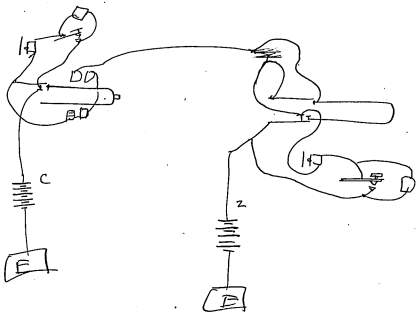




This works fairly but I am afraid that the fake will work independent of resistance in a great measure as I notice that the one in the main line increases the amplitude greatly when Key K is open & Rheostat has large Resistance =

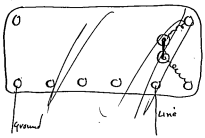






Plan 1 for working Controlling wire straight motion

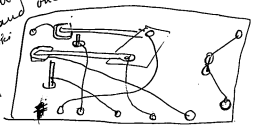
Duplex itself works well with the vibrator going. But the receiving vibrator does not work strong enough with the 60 cells Calland uses here on Current. The loop to Phila Relay is used transmitting with my battery



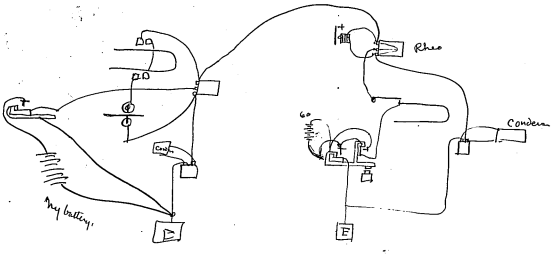
at one end & our 60 cells at the other I think that the addition of 100 cells will make it work perfectly Satisfactorily we are now going to add 25 cells

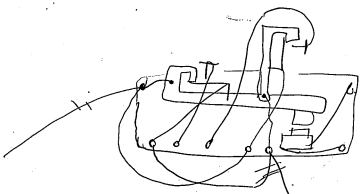
Works DK with 90 cells Calland one end. to 90 cells West side

(10) Take = have but the wire down and going at the end

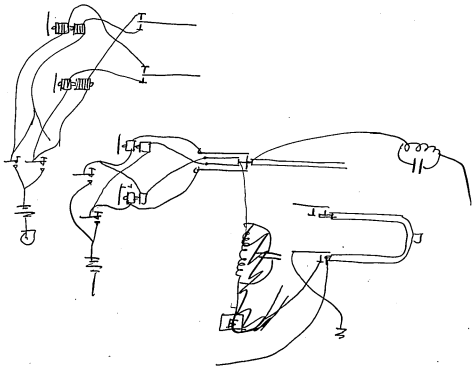


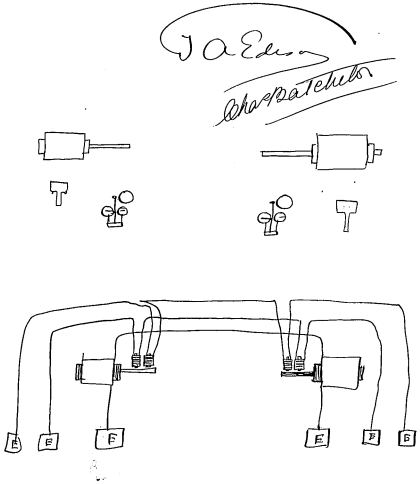
We tried it on direct loop with my battery at each end consisting of 100 & 90. Calland & the strength of vibration was 1/3 more than we should ever want





We now display the controlling circuit as above shewn and find that




T A Edison
Chappa Telutr
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T
E
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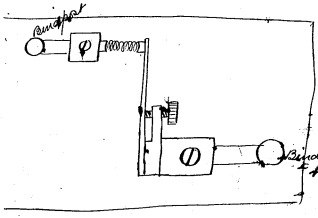
E
F
G
Telephone
Compensation

Make instead of this instrument another like this :-

Make one part stationary with the spindle cupped a little but the other spindle on an adjustable spring also cupped or a little



Batchelor

M M Ford

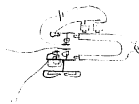
J Hunt

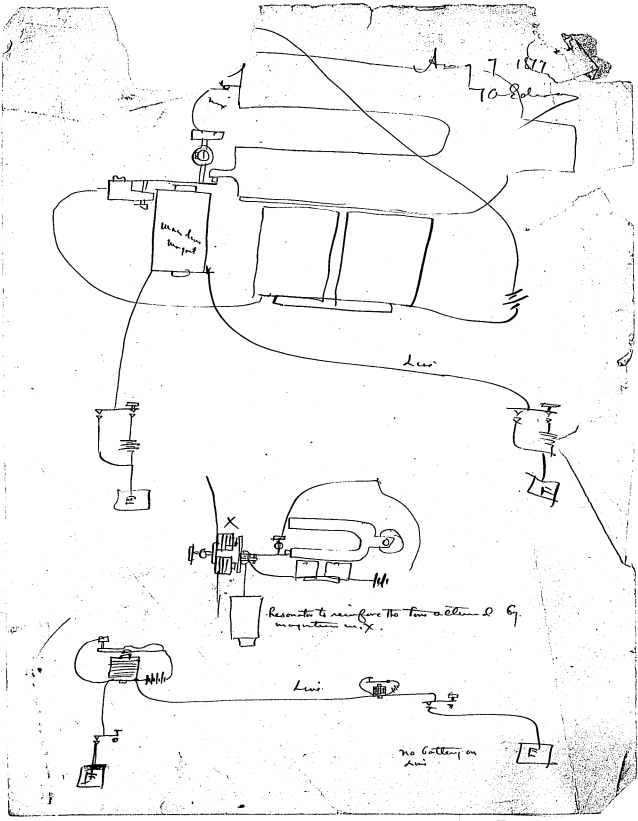
W

W Eastman

T. A. EDISON.

Menlo Park, N. J., ... 187




Aug 7 1967
10 Sabre
Lui
Lui
Lui
no Battery on Lui